



21 Griffin Rd. North  
Windsor, CT 06095

T 860.298.9692  
TRCcompanies.com

February 12, 2020

Ms. Amie Maines, P.E.  
Division of Environmental Compliance  
Bureau of Engineering and Construction  
State of Connecticut Department of Transportation  
P.O. Box 317546  
Newington, Connecticut 06131-7546

ATT: Ms. Denise Young

**RE: Supplemental Subsurface Site Investigation  
Putnam Maintenance Facility – Building Renovations  
3 Industrial Park Road, Putnam, Connecticut  
State Project No. 115-0121  
TRC Assignment No. 116-5429**

Dear Ms. Maines,

TRC Environmental Corporation (TRC), at the request of the Connecticut Department of Transportation (ConnDOT), conducted a supplemental Subsurface Site Investigation at the Putnam Maintenance Facility (Site) located at 3 Industrial Park Road in Putnam, Connecticut (Figure 1) in July 2019. This investigation was in support of recent modifications to the planned facility renovations, including an additional building and relocation of structures. A brief discussion regarding the supplemental investigation is presented below. This letter constitutes an addendum to TRC's January 2018 Task 210 Report for the Putnam Maintenance Facility. Additionally, a separate investigation was completed between February and June 2018 to evaluate a potential Significant Environmental Hazard (SEH) condition identified in the southeastern portion of the Project area. The results of this investigation are summarized in the *Significant Environmental Hazard Assessment Report – May/July 2018*, dated July 25, 2018.

#### **Supplemental Boring and Sampling Program**

On July 11, 2019, Berkshire Environmental Services and Technology, LLC (Berkshire) of Torrington, Connecticut drilled eight soil borings at the Site under the supervision of TRC personnel. The soil boring logs are presented as an attachment. The soil boring/sampling locations are shown on Figures 2 and 3.

As indicated above, the borings were drilled to provide additional soil and groundwater data for the redesigned building renovations project. To evaluate soils within the footprint of new building construction areas, five soil borings (PMF-SB103, PMF-SB105,

PMF-SB106, PMF-SB107, and PMF-SB108) were advanced to the proposed construction depths of four feet below grade (ftbg). Soil samples were collected from each of these borings at a depth interval of two to four ftbg.

Two new oil water separators (OWSs) are planned to be installed in the northern and northeastern portions of the Site. At these two locations, TRC directed Berkshire to advance soil borings PMF-SB101 and PMF-SB104 below the groundwater table for the purpose of collecting soil and groundwater samples within the vicinity of the new OWSs. Two soil samples were collected from each of the borings in order to evaluate both shallow and deeper soils that will be disturbed during the OWS installations:

- Boring PMF-SB101 was advanced to 12 ftbg (groundwater was encountered at approximately 9.3 ftbg). Soil samples were collected from the shallow interval of two to four ftbg and from an interval directly above the water table at seven to eight ftbg. A temporary well point was installed in this boring and a grab groundwater sample (PMF-GW101) was collected.
- Drilling refusal was encountered at 16 ftbg at the location of soil boring PMF-SB104 with no observed groundwater. TRC collected soil samples from two to four ftbg and 12 to 14 ftbg from this boring.
- Soil boring PMF-SB102 was intended to be drilled to a maximum depth of four ftbg for the purpose of evaluating soils conditions near the new building construction. However, since this boring is located near the proposed location of the OWS, it was advanced deeper into the groundwater table to evaluate groundwater in the general vicinity of the OWS. Soil boring PMF-SB102 was advanced to 18 ftbg and groundwater was encountered at approximately 14.4 ftbg. TRC collected one soil sample from the shallow interval as originally planned. A temporary well point was then installed and a grab groundwater sample (PMF-GW102) collected.

The protocols for soil and groundwater sample collection as outlined in the original Task 210 investigation work plan for the Site were followed during this deployment.

All soil and groundwater samples were submitted to Phoenix Environmental Laboratories, Inc. (Phoenix) of Manchester, Connecticut for analysis of the following parameters:

- Volatile Organic Compounds (VOCs) by EPA Method 8260 (with Method 5035 field preservation for soil samples);
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270;

- Extractable Total Petroleum Hydrocarbons (ETPH) by the Connecticut Department of Public Health (CT DPH) Method; and
- Resource Conservation and Recovery Act (RCRA) Eight Metals by EPA Method 6010/7471.

All samples were analyzed in accordance with Connecticut's Reasonable Confidence Protocols (RCPs). As part of the quality assurance/quality control (QA/QC) regimen for the sampling event, one groundwater trip blank and a soil solvent blank were submitted for VOC analysis only. In addition, a field equipment rinsate blank was collected and submitted for analyses.

## **Results**

The Site is located within an area where the groundwater is classified by the Connecticut Department of Energy and Environmental Protection (CTDEEP) as "GA/GAA" meaning, the groundwater is considered to be suitable for existing or potential drinking water supplies without treatment. In addition, the site is located within a "Level A" Aquifer Protection Area. For purposes of presentation and discussion, the soil and groundwater sample results have been compared to Connecticut's promulgated Remediation Standard Regulations (RSRs). Specifically, soil samples were compared to the Residential Direct Exposure Criteria (RES DEC) and the GA Pollutant Mobility Criteria (GA PMC). Groundwater samples were compared to the Groundwater Protection Criteria (GWPC), the Surface Water Protection Criteria (SWPC), and the Residential Groundwater Volatilization Criteria (RES GWVC). Additionally, for the purpose of groundwater management during construction activities, the groundwater sample results were also compared to the permit effluent limits presented in the *General Permit for Discharge of Groundwater Remediation Wastewater* (GP-027), specifically the those applicable for the discharge to a publicly owned treatment works (POTW).

A summary of the soil sample analytical results is provided in Table 1 and the groundwater analytical results are summarized in Table 2. The results are discussed below, and copies of the Phoenix analytical reports are attached.

As shown in Table 1, no VOCs, SVOCs, or ETPH were detected in any of the soil samples collected during this investigation. One or more of the metals arsenic, barium, chromium and lead were detected in all 11 of the collected soil samples. Only the reported concentration of arsenic in soil sample PMF-SB101 (7-8), at 10.7 milligrams per kilogram (mg/kg), exceeded RSR criteria. The remaining reported concentrations of metals were below their respective RSR criteria.

As shown in Table 2, no VOCs, SVOCs, or ETPH were detected in either of the two groundwater samples collected during this investigation. One or more of the metals arsenic, barium, and chromium were detected in the groundwater samples, at concentrations below the applicable RSR criteria and permissible effluent concentrations presented in GP-027.

### **Conclusion**

An elevated arsenic concentration was identified in the soil sample collected from boring PMF-SB101 at seven to eight ftbg. The reported concentration was slightly above those detected in the remaining soil samples collected at the Site and is likely representative of background conditions. As noted, this area will be disturbed during construction activities, specifically for the installation of one of the OWSs. Several metals were detected in the groundwater, the concentrations of which were all below regulatory criteria. Specific handling requirements pertaining to the management of soil and groundwater during construction activities will be provided in the Project Plans and Specifications.

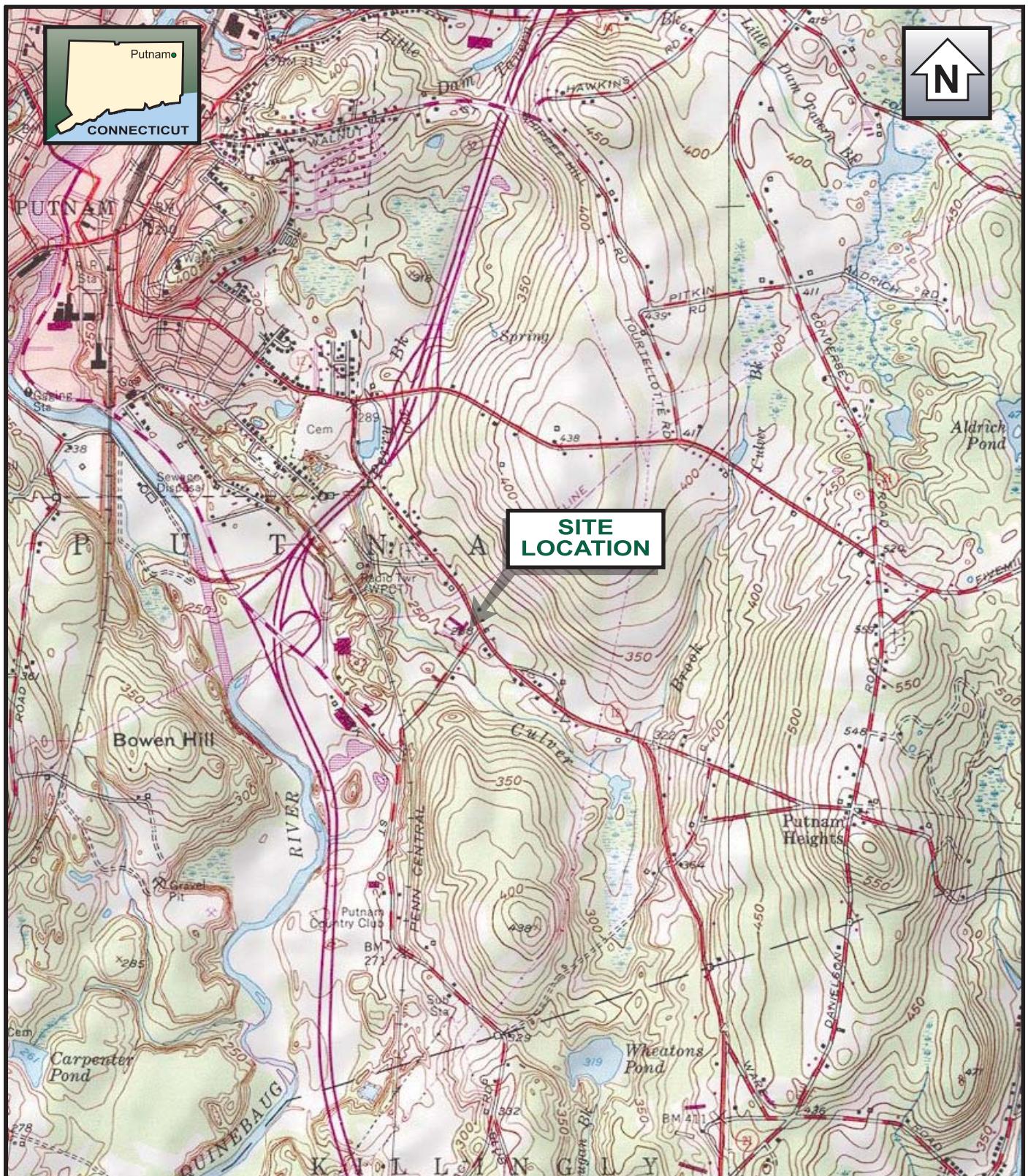
If you have any questions regarding these results, please contact the undersigned at (860) 298-6305 or via e-mail at [Ibane@TRCcompanies.com](mailto:Ibane@TRCcompanies.com).

Sincerely,  
TRC



Liam S. Bane, CHMM  
Project Manager

Attachments



0 2000  
SCALE FEET  
0 1  
SCALE MILE

1:24000

BASE CREATED WITH TOPO™ © 1996 WILDFLOWERS PRODUCTIONS,  
[www.topo.com](http://www.topo.com) - 7.5' USGS TOPOGRAPHIC MAPS



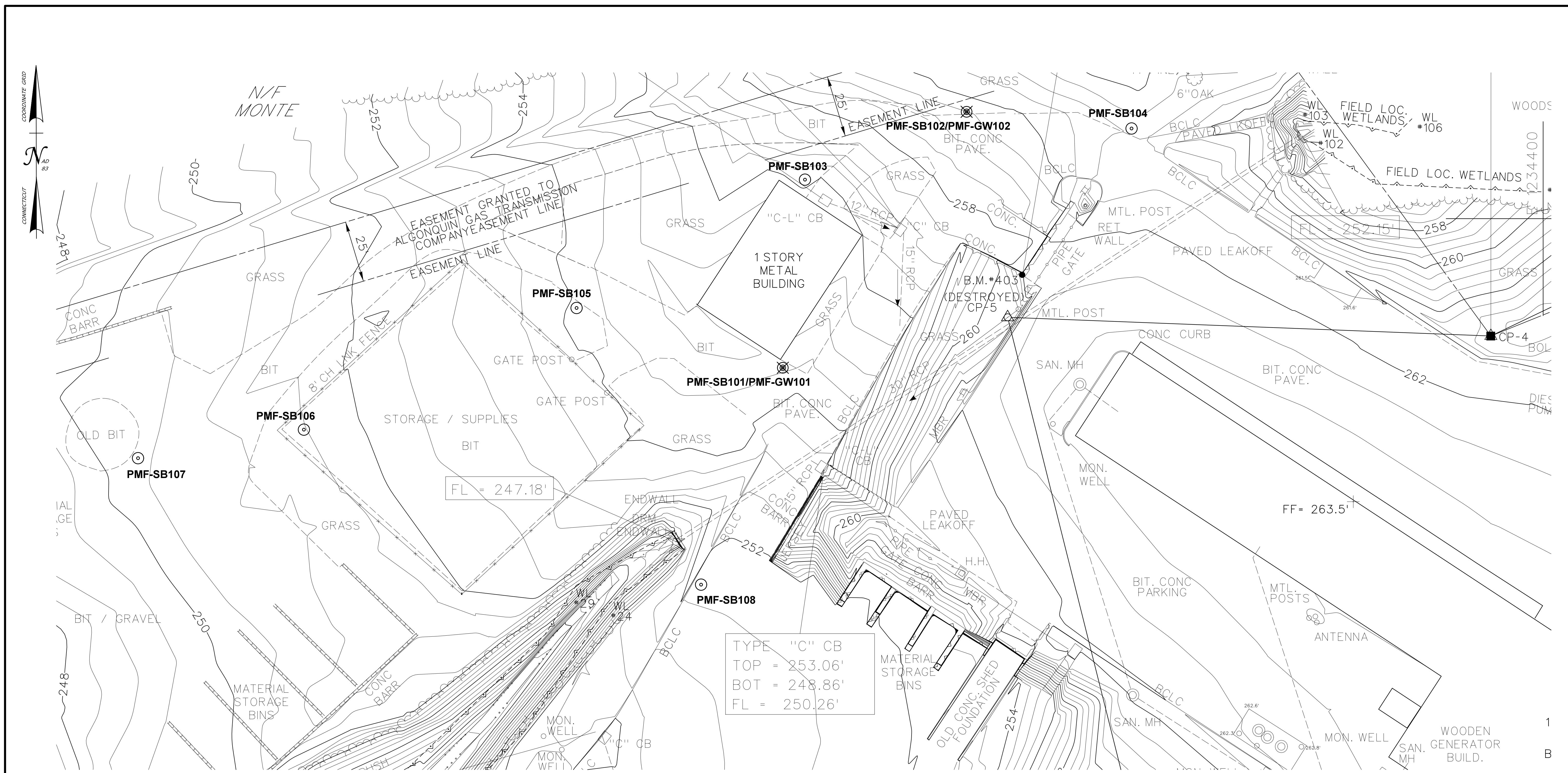
21 Griffin Rd. North  
Windsor, CT 06095  
(860) 298-9692

CONNDOT TASK 210 SUBSURFACE SITE INVESTIGATION  
PUTNAM MAINTENANCE AND REPAIR FACILITY  
3 INDUSTRIAL PARK ROAD, PUTNAM, CONNECTICUT

**FIGURE 1**  
**SITE LOCATION MAP**

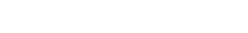
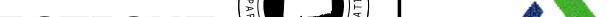
Date: 11/2017 Project No. 237612.5429.000210





### **LEGEND**

- - ❖ MONITORING WELL LOCATION
  - ☒ 2017/2018 SOIL BORING/GROUNDWATER LOCATION
  - 2017/2018 SOIL BORING LOCATION
  - ⓧ 2019 SOIL BORING/GROUNDWATER SAMPLE LOCATION
  - 2019 SOIL BORING LOCATION

				THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER/DRAFTER: <b>L. BANE/R. HAMILTON</b>	TOWN: <b>PUTNAM</b>	PROJECT TITLE: <b>PUTNAM MAINTENANCE FACILITY RENOVATION</b>	PROJECT NO. <b>115-121</b>	SIGNATURE/BLOCK:  	DRAWING NO. <b>FIGURE 3</b>	SHEET NO.
REV.	DATE	REVISION DESCRIPTION	SHEET NO.		CHECKED BY: <b>D. MARTIN</b>						
<p style="text-align: center;"><b>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</b></p> <p style="text-align: center;"><b>PUTNAM MAINTENANCE FACILITY RENOVATION</b></p> <p style="text-align: center;">SCALE IN FEET</p>  <p style="text-align: center;">0      20      40</p> <p style="text-align: center;">SCALE 1"=20'</p>									Plotted Date: 8/15/2019		
Filename: ... \PUTNAM MAINT FACILITY-FIGURE 3.dgn											

**Table 1**  
**Soil Sample Analytical Results**  
**July 2019 Supplemental Subsurface Investigation**  
**Putnam Maintenance Facility, Putnam, Connecticut**  
**TRC Project N. 237612.005429.000910**  
**ConnDOT Project No. 115-0121**

Boring No. Sample Interval (ftbg): Sample Date: Notes:	PMF-SB101 (2-4) 2-4 7/11/2019	PMF-SB101 (7-8) 7-8 7/11/2019	PMF-SB102 (2-4) 2-4 7/11/2019	PMF-SB103 (2-4) 2-4 7/11/2019	PMF-SB104 (2-4) 2-4 7/11/2019	PMF-SB104 (12-14) 12-14 7/11/2019	PMF-SB104B(12-14) 12-14 7/11/2019 Duplicate of PMF-SB104 (12-14)	PMF-SB105 (2-4) 2-4 7/11/2019	PMF-SB106 (2-4) 2-4 7/11/2019	PMF-SB107 (2-4) 2-4 7/11/2019	PMF-SB108(2-4) 2-4 7/11/2019	<b>CT RSRs</b>		
	RES DEC	GA PMC												
<b>Volatile Organic Compounds - mg/kg</b>													--	--
Method 8260	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--
<b>Semivolatile Organic Compounds - mg/kg</b>													--	--
Method 8270	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--
<b>Extractable Total Petroleum Hydrocarbons - mg/kg</b>														
CT DPH Method	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	500	500
<b>Total Metals - mg/kg</b>														
Methods 6010/7471														
Arsenic	5.55	10.7	4.83	6.89	6.80	5.14	6.06	6.61	5.41	5.13	6.69	10	--	--
Barium	46.5	41.0	22.3	30.7	26.2	22.8	22.6	44.9	53.5	20.3	27.6	4,700	--	--
Chromium	19.3	19.2	12.0	14.8	23.5	17.7	16.2	23.5	26.0	14.4	25.8	100**	--	--
Lead	3.88	3.20	3.28	3.53	3.73	2.12	3.35	5.31	3.16	2.20	4.19	400	--	--

NOTES:

CT RSRs - State of Connecticut Remediation Standard Regulations (CT RSRs) per RCSA 22a-133k-1 through 22a-133k-3, adopted January 1, 1996 and revised on June 27, 2013.

RES DEC - Residential Direct Exposure Criteria

GA PMC - GA Pollutant Mobility Criteria

ftbg - feet below grade

ND - Not detected above laboratory detection limits (all checked to be in compliance with established RSR criteria)

NA - Not analyzed

mg/kg - milligrams per kilogram

Shaded value indicates an exceedance of the RES DEC

Bold value indicates an exceedance of the GA PMC.

\*\* - Currently, no RES DEC for total chromium is established in the CT RSRs. However, the CT RSRs provide an RES DEC value for both hexavalent and trivalent chromium, of which the value for hexavalent chromium (the more stringent of the two) is presented on this table for comparison.

**Table 1**  
**Soil Sample Analytical Results**  
**July 2019 Supplemental Subsurface Investigation**  
**Putnam Maintenance Facility, Putnam, Connecticut**  
**TRC Project N. 237612.005429.000910**  
**ConnDOT Project No. 115-0121**

<b>Boring No.</b> Sample Interval (ftbg): Sample Date: Notes:	<b>SB07112019-L</b> SB-Low 7/11/2019 Solvent Blank	<b>SB07112019-H</b> SB-High 7/11/2019 Solvent Blank	<b>FB07112019</b> 7/11/2019 Field Blank	<b>CT RSRs</b>	
				RES DEC	GA PMC
<b>Volatile Organic Compounds - mg/kg</b> <b>Method 8260</b>	ND	ND	ND	--	--
<b>Semivolatile Organic Compounds - mg/kg</b> <b>Method 8270</b>	NA	NA	ND	--	--
<b>Extractable Total Petroleum Hydrocarbons - mg/kg</b> <b>CT DPH Method</b>	NA	NA	ND	500	500
<b>Total Metals - mg/kg</b> <b>Methods 6010/7471</b>	NA	NA	ND	10 4,700 100** 400	-- -- -- --
Arsenic Barium Chromium Lead					

NOTES:

CT RSRs - State of Connecticut Remediation Standard Regulations (CT RSRs) per RCSA 22a-133k-1 through 22a-133k-3, adopted January 1, 1996 and revised January 1, 2000.

RES DEC - Residential Direct Exposure Criteria

GA PMC - GA Pollutant Mobility Criteria

ftbg - feet below grade

ND - Not detected above laboratory detection limits (all checked to be in compliance with established RSR criteria)

NA - Not analyzed

mg/kg - milligrams per kilogram

Shaded value indicates an exceedance of the RES DEC

Bold value indicates an exceedance of the GA PMC.

\*\* - Currently, no RES DEC for total chromium is established in the CT RSRs. However, the CT RSRs provide an RES DEC value for both hexavalent and trivalent chromium, of which the value for hexavalent chromium (the more stringent of the two) is presented on this table for comparison.

**Table 2**  
**Groundwater Sample Analytical Results**  
**July 2019 Supplemental Subsurface Investigation**  
**Putnam Maintenance Facility, Putnam, Connecticut**  
**TRC Project No. 237612.005429.000910**  
**ConnDOT Project No. 115-0121**

Sample ID: Sample Date:	PMF-GW101 7/11/2019	PMF-GW102 7/11/2019	TB07112019 7/11/2019 Trip Blank	FB07112019 7/11/2019 Field Blank	CT RSRs			Permit Effluent Limits
					GWPC	SWPC	RES GWVC	GP-027
<b>Volatile Organic Compounds - ug/l</b>					--	--	--	--
<b>Method 8260</b>	ND	ND	ND	ND	--	--	--	--
<b>Total VOCs</b>								5,000
<b>Semivolatile Organic Compounds - ug/l</b>					--	--	--	--
<b>Method 8270</b>	ND	ND	NA	ND	--	--	--	2,000
<b>Total PAHs</b>								
<b>Extractable Total Petroleum Hydrocarbons - mg/l</b>					0.25	NE	--	100
<b>CT DEEP Method</b>	ND	ND	NA	ND				
<b>Total RCRA 8 Metals - mg/l</b>								
<b>Methods 6010/7471</b>								
Arsenic		0.004			0.05	0.004	--	0.1
Barium		0.063			1	NE	--	5.0
Chromium		0.012			0.05	NE	--	1.0

**NOTES:**

CT RSRs - State of Connecticut Remediation Standard Regulations (CT RSRs) per RCSA 22a-133k-1 through 22a-133k-3, adopted January 1, 1996 and revised on June 27, 2013.

GWPC - Groundwater Protection Criteria

SWPC - Surface Water Protection Criteria

RES GWVC - Residential Groundwater Volatilization Criteria

GP-027 - General Permit for Discharge of Groundwater Remediation Wastewater Directly to a Sanitary Sewer

PAHs - Polycyclic Aromatic Hydrocarbons

ND - Not detected above laboratory detection limits (all checked to be in compliance with established RSR criteria)

NE - No established remediation criteria for specific compound

NA - Not Analyzed

BOLD value indicates an exceedance of the GWPC.

Shaded value indicates an exceedance of the SWPC.

Italicized value indicates an exceedance of the RES GWVC.



BORING NUMBER: PMF-SB101

Page 1 of 1

PROJECT INFORMATION					BORING INFORMATION			
Project Name: <b>Putnam Maintenance Facility</b> Project Location: <b>Putnam, Connecticut</b> Project Number: <b>237612.5429.0910</b> Client: <b>Connecticut Department of Transportation</b> TRC Eng./Geo: <b>Paul Greshin</b> Checked By: <b>Liam Bane</b>					Boring Depth (ft): <b>12</b>	Hole Diameter (in): <b>2"</b>		
					Date Started: <b>7/11/19</b>	Date Completed: <b>7/11/19</b>		
					Coordinate System:			
					North: <b>Not Surveyed</b>	East: <b>Not Surveyed</b>		
					Vertical Datum:	Ground Elevation: <b>Not Surveyed</b>		
					Well Elevation (Top of Casing)	<b>Not Surveyed</b>		
DRILLING INFORMATION					GROUND WATER OBSERVATIONS			
Drilling Contractor: <b>Berkshire Environmental Services</b> Driller(s): <b>Frank &amp; Bill</b> Drilling Method: <b>Direct-Push</b> Equipment/Model: <b>Geoprobe 5410 truck mounted</b> Sampler: <b>48-inch Macrocore</b>					MEASUREMENT	At Time of Drilling	At End of Drilling	
					DATE	<b>7/11/2019</b>		
					DEPTH (ft.bgs.)	<b>9.35</b>		
					REFERENCE			
					STABILIZATION			
DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION		◆ VOC SCREENING RESULTS (ppm)
								20 40 60 80
						0'- 0.5' Asphalt		
						0.5'- 0.9' Medium Brown M-C SAND, some gravel, dry, no odor, no staining		
						0.9'- 2.5' Light Brown C-SAND, some gravel, dry, no odor, no staining		
	MAC-0-4		4.0	3.0		2.5'- 3' Light Brown to White M-SAND, some gravel, dry, no odor, no staining		
						4'- 4.6' Light Brown M-SAND, some f-sand, trace gravel, dry, no odor, no staining		
						4.6'- 7' Medium to Light Brown F-M SAND, some gravel, slightly moist, no odor, no staining		
	MAC-4-8		4.0	4.0		7'- 8' Medium Brown F-SAND, some gravel, moist, no odor, no staining		
						8'- 8.8' Light Brown to White F-M SAND, slightly moist, no odor, no staining (Fall-in material)		
						8.8'- 10.4' Medium Brown F-SAND, some silt, wet, no odor, no staining		
	MAC-8-12		4.0	4.0		10.4'- 12' Medium to Dark Brown C-SAND, some gravel, saturated, no odor, no staining		
						Bottom of borehole at 12.0 feet.		
<p>Notes: Soil samples PMF-SB101 (2-4) and PMF-SB101 (7-8) collected from 2-4 ftbg and 7-8 ftbg, respectively, and analyzed for VOCs, SVOCS, CT ETPH, and RCRA 8 metals.</p>								



BORING NUMBER: PMF-SB102

Page 1 of 1

PROJECT INFORMATION						BORING INFORMATION				
Project Name: Putnam Maintenance Facility						Boring Depth (ft): 18	Hole Diameter (in): 2"			
Project Location: Putnam, Connecticut						Date Started: 7/11/19	Date Completed: 7/11/19			
Project Number: 237612.5429.0910						Coordinate System:				
Client: Connecticut Department of Transportation						North: Not Surveyed	East: Not Surveyed			
TRC Eng./Geo: Paul Greshin						Vertical Datum:	Ground Elevation: Not Surveyed			
Checked By: Liam Bane						Well Elevation (Top of Casing) Not Surveyed				
DRILLING INFORMATION						GROUND WATER OBSERVATIONS				
Drilling Contractor: Berkshire Environmental Services						MEASUREMENT	<input checked="" type="checkbox"/> At Time of Drilling	<input checked="" type="checkbox"/> At End of Drilling	<input checked="" type="checkbox"/> After Drilling	
Driller(s): Frank & Bill						DATE	7/11/2019			
Drilling Method: Direct-Push						DEPTH (ft.bgs.)	14.4			
Equipment/Model: Geoprobe 5410 truck mounted						REFERENCE				
Sampler: 48-inch Macrocore						STABILIZATION	None			
DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION				◆ VOC SCREENING RESULTS (ppm)
										20 40 60 80
						0'-0.6' Asphalt				
						0.6'-1.4' Medium Brown F-SAND, some m-sand and gravel, dry, no odor, no staining				
	MAC-0-4		4.0	3.5		1.4'-3' Light Brown to White F-SAND, some m-sand and gravel, dry, no odor, no staining				◆
						3'-3.5' Medium Brown C-SAND, some m-sand and gravel, dry, no odor, no staining				
5						4'-4.9' Light Brown to White M-SAND, some c-sand and gravel, dry, no odor, no staining				
	MAC-4-8		4.0	4.0		4.9'-5.9' Light Brown SILT, saturated, no odor, no staining				◆
						5.9'-8' Light to Medium Brown F-M SAND, some gravel, slightly moist, no odor, no staining				
10	MAC-8-12		4.0	4.0		8'-9.5' Light Brown F-M SAND, some gravel, slightly moist, no odor, no staining				
						9.5'-10.9' Light to Medium Brown C-SAND, some m-sand and gravel, slightly moist, no odor, no staining				◆
						10.9'-12' Medium Brown C-SAND, some m-sand and gravel, slightly moist, no odor, no staining				
						12'-13' Gray-Brown M-SAND, some gravel, slightly moist, no odor, no staining				
	MAC-12-16		4.0	4.0		13'-14.2' Medium Brown M-SAND, some coarse sand and gravel, moist, no odor, no staining				◆
						14.2'-16' Medium Brown C-SAND, some gravel, saturated, no odor, no staining				◆
	MAC-16-18		2.0	2.0		16'-18' Medium Brown C-SAND, saturated, no odor, no staining				
						Bottom of borehole at 18.0 feet.				
20										



BORING NUMBER: PMF-SB103

Page 1 of 1



BORING NUMBER: PMF-SB104

Page 1 of 1

**PROJECT INFORMATION**

Project Name: Putnam Maintenance Facility

Project Location: Putnam, Connecticut

Project Number: 237612.5429.0910

Client: Connecticut Department of Transportation

TRC Eng./Geo: Paul Greshin

Checked By: Liam Bane

**BORING INFORMATION**

Boring Depth (ft): 16 Hole Diameter (in): 2"

Date Started: 7/11/19 Date Completed: 7/11/19

Coordinate System:

North: Not Surveyed East: Not Surveyed

Vertical Datum: Ground Elevation: Not Surveyed

Well Elevation (Top of Casing) Not Surveyed

**DRILLING INFORMATION**

Drilling Contractor: Berkshire Environmental Services

Driller(s): Frank & Bill

Drilling Method: Direct-Push

Equipment/Model: Geoprobe 5410 truck mounted

Sampler: 48-inch Macrocore

**GROUND WATER OBSERVATIONS**

MEASUREMENT At Time of Drilling At End of Drilling After Drilling

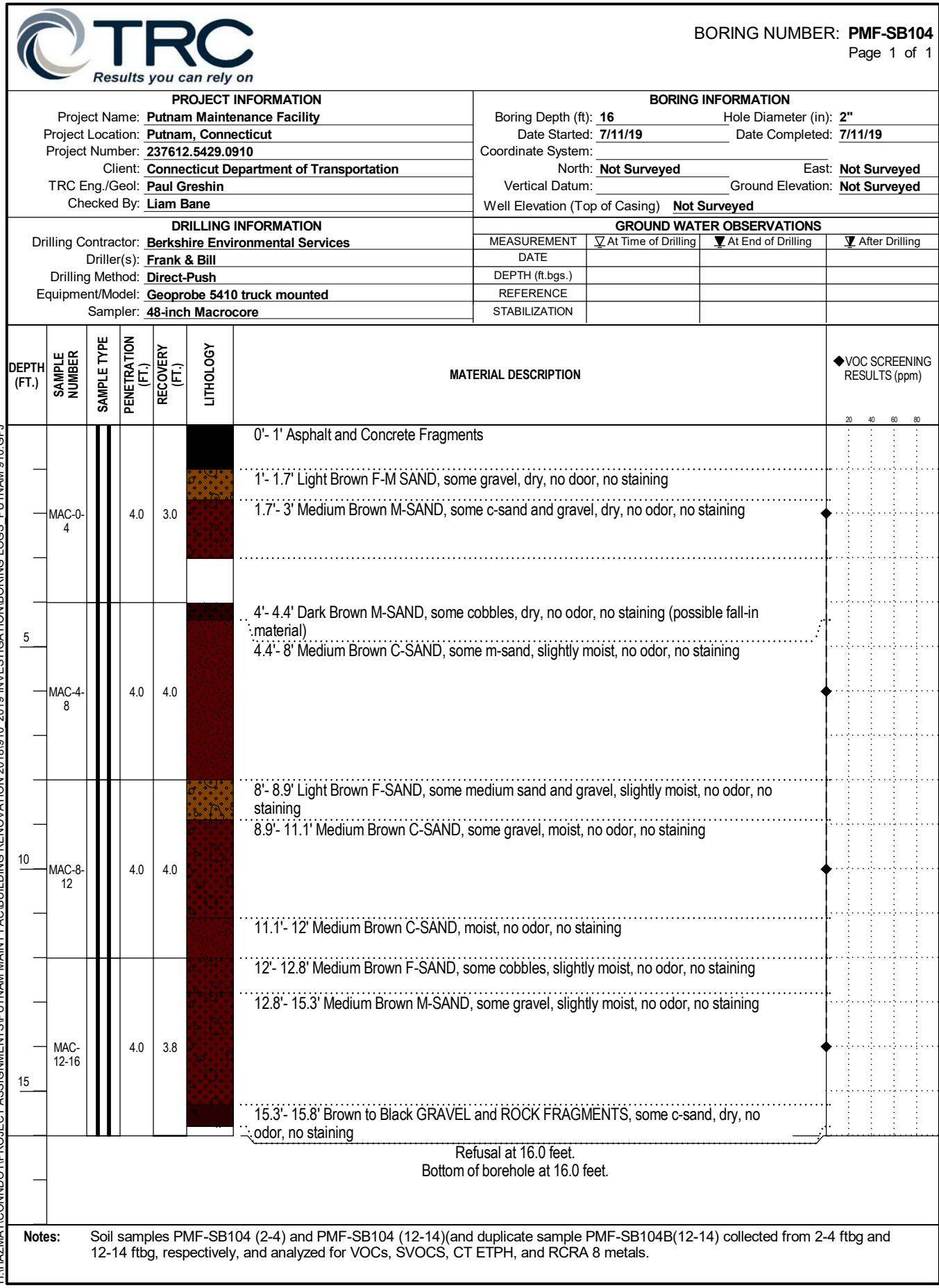
DATE

DEPTH (ft.bgs.)

REFERENCE

STABILIZATION

SOIL BORING/WELL COMPLETION WITH NOTES 2 -TRC-STD US GDT -2/12/20  
H:\\HAZMAT\\PROJECT ASSIGNMENTS\\PUTNAM MAINT FAC\\BUILDING RENOVATION 2018\\910 2019 INVESTIGATION\\BORING LOGS PUTNAM 910.GPJ



Notes: Soil samples PMF-SB104 (2-4) and PMF-SB104 (12-14)(and duplicate sample PMF-SB104B(12-14) collected from 2-4 ftbg and 12-14 ftbg, respectively, and analyzed for VOCs, SVOCS, CT ETPH, and RCRA 8 metals.



BORING NUMBER: PMF-SB105

Page 1 of 1

PROJECT INFORMATION						BORING INFORMATION				
Project Name:	Putnam Maintenance Facility	Boring Depth (ft):	4	Hole Diameter (in):	2"					
Project Location:	Putnam, Connecticut	Date Started:	7/11/19	Date Completed:	7/11/19					
Project Number:	237612.5429.0910	Coordinate System:								
Client:	Connecticut Department of Transportation	North:	Not Surveyed	East:	Not Surveyed					
TRC Eng./Geol:	Paul Greshin	Vertical Datum:		Ground Elevation:	Not Surveyed					
Checked By:	Liam Bane	Well Elevation (Top of Casing)	Not Surveyed							
DRILLING INFORMATION						GROUND WATER OBSERVATIONS				
Drilling Contractor:	Berkshire Environmental Services	MEASUREMENT	At Time of Drilling	At End of Drilling	After Drilling					
Driller(s):	Frank & Bill	DATE								
Drilling Method:	Direct-Push	DEPTH (ft.bgs.)								
Equipment/Model:	Geoprobe 5410 truck mounted	REFERENCE								
Sampler:	48-inch Macrocore	STABILIZATION								
DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆ VOC SCREENING RESULTS (ppm)			
							20	40	60	80
MAC-0-4			4.0	3.5		0'- 1.5' Dark Brown TOPSOIL, grass, roots, silt, slightly moist, no odor, no staining 1.5'- 2.1' Medium Brown F-SAND, some gravel, dry, no odor, no staining 2.1'- 3.5' Light Brown M-SAND, some f-sand and gravel, dry, no odor, no staining				
						Bottom of borehole at 4.0 feet.				
5										
Notes: Soil sample PMF-SB105 (2-4) collected from 2-4 ftbg and analyzed for VOCs, SVOCS, CT ETPH, and RCRA 8 metals.										



BORING NUMBER: PMF-SB106

Page 1 of 1

PROJECT INFORMATION						BORING INFORMATION		
Project Name: Putnam Maintenance Facility						Boring Depth (ft): 4	Hole Diameter (in): 2"	
Project Location: Putnam, Connecticut						Date Started: 7/11/19	Date Completed: 7/11/19	
Project Number: 237612.5429.0910						Coordinate System:		
Client: Connecticut Department of Transportation						North: Not Surveyed	East: Not Surveyed	
TRC Eng./Geol: Paul Greshin						Vertical Datum:	Ground Elevation:	Not Surveyed
Checked By: Liam Bane						Well Elevation (Top of Casing) Not Surveyed		
DRILLING INFORMATION						GROUND WATER OBSERVATIONS		
Drilling Contractor: Berkshire Environmental Services						MEASUREMENT	At Time of Drilling	At End of Drilling
Driller(s): Frank & Bill						DATE		
Drilling Method: Direct-Push						DEPTH (ft.bgs.)		
Equipment/Model: Geoprobe 5410 truck mounted						REFERENCE		
Sampler: 48-inch Macrocore						STABILIZATION		
DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION		
MAC-0-4			4.0	2.8		0'- 0.4' Asphalt		◆ VOC SCREENING RESULTS (ppm)
						0.4'- 0.6' Yellow-Brown M-SAND, dry, no odor, no staining		20 40 60 80
						0.6'- 1.4' Medium Brown F-SAND, some silt, moist, no odor, no staining		
						1.4'- 2.8' Light Brown C-SAND, some m-sand and c-gravel, dry, no odor, no staining		
						Bottom of borehole at 4.0 feet.		
5								
Notes: Soil sample PMF-SB106 (2-4) collected from 2-4 ftbg and analyzed for VOCs, SVOCS, CT ETPH, and RCRA 8 metals.								



BORING NUMBER: PMF-SB107

Page 1 of 1



BORING NUMBER: PMF-SB108

Page 1 of 1

PROJECT INFORMATION						BORING INFORMATION			
Project Name: Putnam Maintenance Facility			Boring Depth (ft): 4			Hole Diameter (in): 2"			
Project Location: Putnam, Connecticut			Date Started: 7/11/19			Date Completed: 7/11/19			
Project Number: 237612.5429.0910			Coordinate System:						
Client: Connecticut Department of Transportation			North: Not Surveyed			East: Not Surveyed			
TRC Eng./Geol: Paul Greshin			Vertical Datum:			Ground Elevation: Not Surveyed			
Checked By: Liam Bane			Well Elevation (Top of Casing)			Not Surveyed			
DRILLING INFORMATION						GROUND WATER OBSERVATIONS			
Drilling Contractor: Berkshire Environmental Services			MEASUREMENT	At Time of Drilling	At End of Drilling	After Drilling			
Driller(s): Frank & Bill			DATE						
Drilling Method: Direct-Push			DEPTH (ft.bgs.)						
Equipment/Model: Geoprobe 5410 truck mounted			REFERENCE						
Sampler: 48-inch Macrocore			STABILIZATION						
DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION			◆ VOC SCREENING RESULTS (ppm)
						20	40	60	80
MAC-0-4			4.0	3.0		0'- 1' Asphalt			
						1'- 1.2' Black SILT & F-SAND, dry, no odor, no staining			
			1.2'- 1.9' Medium Brown M-SAND, some f-sand, dry, no odor, no staining						
			1.9'- 3' Light Brown M-SAND, some f-sand and gravel, dry, no odor, no staining						
Bottom of borehole at 4.0 feet.									
5									
<p><b>Notes:</b> Soil sample PMF-SB108 (2-4) collected from 2-4 ftbg and analyzed for VOCs, SVOCs, CT ETPH, and RCRA 8 metals.</p>									



Friday, July 19, 2019

Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
SDG ID: GCD55026  
Sample ID#s: CD55026 - CD55042

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller".

Phyllis Shiller

Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #M-CT007  
ME Lab Registration #CT-007  
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003  
NY Lab Registration #11301  
PA Lab Registration #68-03530  
RI Lab Registration #63  
UT Lab Registration #CT00007  
VT Lab Registration #VT11301



Environmental Laboratories, Inc.  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## SDG Comments

July 19, 2019

SDG I.D.: GCD55026

---

Volatile 8260 analysis:

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane do not meet GWP criteria, this compound is analyzed by GC/ECD to achieve this criteria.



Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

## Sample Id Cross Reference

July 19, 2019

SDG I.D.: GCD55026

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY

---

Client Id	Lab Id	Matrix
PMF-SB101 (2-4)	CD55026	SOIL
PMF-SB101 (7-8)	CD55027	SOIL
PMF-GW101	CD55028	GROUND WATER
FB07112019	CD55029	GROUND WATER
TB07112019	CD55030	WATER
SB07112019 LL	CD55031	SOIL
PMF-SB102 (2-4)	CD55032	SOIL
PMF-GW102	CD55033	GROUND WATER
PMF-SB103 (2-4)	CD55034	SOIL
PMF-SB104 (2-4)	CD55035	SOIL
PMF-SB104 (12-14)	CD55036	SOIL
PMF-SB105 (2-4)	CD55037	SOIL
PMF-SB106 (2-4)	CD55038	SOIL
PMF-SB107 (2-4)	CD55039	SOIL
PMF-SB108 (2-4)	CD55040	SOIL
PMF-SB104B (12-14)	CD55041	SOIL
SB07112019 HL	CD55042	SOIL



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix:	SOIL	Collected by:	07/11/19	8:00
Location Code:	TRC-DOT	Received by:	SW	07/11/19
Rush Request:	72 Hour	Analyzed by:	see "By" below	
P.O.#:				

### Custody Information

Date

Time

SDG ID: GCD55026

Phoenix ID: CD55026

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-SB101 (2-4)

### Laboratory Data

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.31	0.31	mg/Kg	1	07/12/19	TH	SW6010D
Arsenic	5.55	0.61	mg/Kg	1	07/12/19	TH	SW6010D
Barium	46.5	0.31	mg/Kg	1	07/12/19	TH	SW6010D
Cadmium	< 0.31	0.31	mg/Kg	1	07/12/19	TH	SW6010D
Chromium	19.3	0.31	mg/Kg	1	07/12/19	TH	SW6010D
Mercury	< 0.02	0.02	mg/Kg	2	07/12/19	RS	SW7471B
Lead	3.88	0.31	mg/Kg	1	07/12/19	TH	SW6010D
Selenium	< 1.2	1.2	mg/Kg	1	07/12/19	EK	SW6010D
Percent Solid	97		%		07/11/19	ML	SW846-%Solid
Soil Extraction for SVOA	Completed				07/15/19	NT/LV	SW3545A
Extraction of CT ETPH	Completed				07/11/19	Q/G/E	SW3545A
Mercury Digestion	Completed				07/12/19	LS/LS	SW7471B
Total Metals Digest	Completed				07/11/19	S/AG/BF	SW3050B

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	51	mg/Kg	1	07/13/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	07/13/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	67	%	1	07/13/19	JRB	50 - 150 %
-----------------	----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0026	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.022	mg/Kg	1	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.022	mg/Kg	1	07/12/19	JLI	SW8260C
Acetone	ND	0.22	mg/Kg	1	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Benzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromoform	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromomethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroform	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Chloromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.0026	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.026	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.0087	mg/Kg	1	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.0087	mg/Kg	1	07/12/19	JLI	SW8260C
Naphthalene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
o-Xylene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
p-Isopropyltoluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Styrene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.0087	mg/Kg	1	07/12/19	JLI	SW8260C
Toluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.0087	mg/Kg	1	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.0087	mg/Kg	1	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	96		%	1	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene	100		%	1	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane	100		%	1	07/12/19	JLI	70 - 130 %
% Toluene-d8	99		%	1	07/12/19	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	07/16/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Dichlorobenzene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
1,3-Dichlorobenzene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
1,4-Dichlorobenzene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2-Chloronaphthalene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2-Chlorophenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylnaphthalene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitrophenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	0.33	mg/Kg	1	07/16/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
3-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	0.33	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloroaniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
4-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitrophenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthylene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Acetophenone	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Aniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Anthracene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Benz(a)anthracene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Benzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(a)pyrene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Benzoic acid	ND	0.67	mg/Kg	1	07/16/19	WB	SW8270D
Benzyl butyl phthalate	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.33	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Carbazole	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Chrysene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Dibenzofuran	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Diethyl phthalate	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Dimethylphthalate	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-butylphthalate	ND	0.33	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-octylphthalate	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Fluoranthene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Fluorene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobenzene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobutadiene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorocyclopentadiene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Hexachloroethane	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Isophorone	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Naphthalene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Pentachloronitrobenzene	ND	0.14	mg/Kg	1	07/16/19	WB	SW8270D
Pentachlorophenol	ND	0.33	mg/Kg	1	07/16/19	WB	SW8270D
Phenanthrene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Phenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Pyrene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Pyridine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	67		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorobiphenyl	49		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorophenol	44		%	1	07/16/19	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Nitrobenzene-d5	52		%	1	07/16/19	WB	30 - 130 %
% Phenol-d5	49		%	1	07/16/19	WB	30 - 130 %
% Terphenyl-d14	59		%	1	07/16/19	WB	30 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix:	SOIL	Collected by:	07/11/19	8:05
Location Code:	TRC-DOT	Received by:	SW	07/11/19
Rush Request:	72 Hour	Analyzed by:	see "By" below	
P.O.#:				

### Custody Information

Date

Time

SDG ID: GCD55026

Phoenix ID: CD55027

### Laboratory Data

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-SB101 (7-8)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.34	0.34	mg/Kg	1	07/12/19	TH	SW6010D
Arsenic	10.7	0.69	mg/Kg	1	07/12/19	TH	SW6010D
Barium	41.0	0.34	mg/Kg	1	07/12/19	TH	SW6010D
Cadmium	< 0.34	0.34	mg/Kg	1	07/12/19	TH	SW6010D
Chromium	19.2	0.34	mg/Kg	1	07/12/19	TH	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	07/12/19	RS	SW7471B
Lead	3.20	0.34	mg/Kg	1	07/12/19	TH	SW6010D
Selenium	< 1.4	1.4	mg/Kg	1	07/12/19	TH	SW6010D
Percent Solid	91		%		07/11/19	ML	SW846-%Solid
Soil Extraction for SVOA	Completed				07/15/19	NT/LV	SW3545A
Extraction of CT ETPH	Completed				07/11/19	Q/G/E	SW3545A
Mercury Digestion	Completed				07/12/19	LS/LS	SW7471B
Total Metals Digest	Completed				07/11/19	S/AG/BF	SW3050B

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	54	mg/Kg	1	07/13/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	07/13/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	70	%	1	07/13/19	JRB	50 - 150 %
-----------------	----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.004	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichlorobenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.033	mg/Kg	1	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.033	mg/Kg	1	07/12/19	JLI	SW8260C
Acetone	ND	0.33	mg/Kg	1	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Benzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Bromoform	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Bromomethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroform	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Chloromethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.004	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.04	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.013	mg/Kg	1	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.013	mg/Kg	1	07/12/19	JLI	SW8260C
Naphthalene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
o-Xylene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
p-Isopropyltoluene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Styrene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.013	mg/Kg	1	07/12/19	JLI	SW8260C
Toluene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.013	mg/Kg	1	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.013	mg/Kg	1	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.0066	mg/Kg	1	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	95		%	1	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene	100		%	1	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	07/12/19	JLI	70 - 130 %
% Toluene-d8	98		%	1	07/12/19	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	07/16/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Dichlorobenzene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
1,3-Dichlorobenzene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
1,4-Dichlorobenzene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2-Chloronaphthalene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
2-Chlorophenol	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylnaphthalene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitrophenol	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	0.36	mg/Kg	1	07/16/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
3-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	0.36	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloroaniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
4-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitrophenol	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthylene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Acetophenone	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Aniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Anthracene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Benz(a)anthracene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Benzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(a)pyrene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Benzoic acid	ND	0.71	mg/Kg	1	07/16/19	WB	SW8270D
Benzyl butyl phthalate	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.36	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Carbazole	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Chrysene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Dibenzofuran	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Diethyl phthalate	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Dimethylphthalate	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-butylphthalate	ND	0.36	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-octylphthalate	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Fluoranthene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Fluorene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobenzene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobutadiene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorocyclopentadiene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Hexachloroethane	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Isophorone	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Naphthalene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Pentachloronitrobenzene	ND	0.14	mg/Kg	1	07/16/19	WB	SW8270D
Pentachlorophenol	ND	0.36	mg/Kg	1	07/16/19	WB	SW8270D
Phenanthrene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Phenol	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Pyrene	ND	0.25	mg/Kg	1	07/16/19	WB	SW8270D
Pyridine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	61		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorobiphenyl	42		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorophenol	37		%	1	07/16/19	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Nitrobenzene-d5	42		%	1	07/16/19	WB	30 - 130 %
% Phenol-d5	41		%	1	07/16/19	WB	30 - 130 %
% Terphenyl-d14	65		%	1	07/16/19	WB	30 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102      Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix: GROUND WATER  
Location Code: TRC-DOT  
Rush Request: 72 Hour  
P.O. #:

### Custody Information

Collected by:  
Received by: SW  
Analyzed by: see "By" below

Date

Time

07/11/19      8:10  
07/11/19      16:38  
SDG ID: GCD55026  
Phoenix ID: CD55028

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-GW101

### Laboratory Data

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	07/12/19	TH	SW6010D
Arsenic	< 0.004	0.004	mg/L	1	07/12/19	TH	SW6010D
Barium	0.199	0.002	mg/L	1	07/12/19	TH	SW6010D
Cadmium	< 0.001	0.001	mg/L	1	07/12/19	TH	SW6010D
Chromium	< 0.001	0.001	mg/L	1	07/12/19	TH	SW6010D
Mercury	< 0.0002	0.0002	mg/L	1	07/12/19	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	07/12/19	TH	SW6010D
Selenium	< 0.010	0.010	mg/L	1	07/12/19	TH	SW6010D
Extraction of CT ETPH	Completed				07/11/19	P/AK	SW3510C/SW3520C
Mercury Digestion	Completed				07/12/19	I/I	SW7470A
Semi-Volatile Extraction	Completed				07/15/19	P/AK	SW3520C
Total Metals Digestion	Completed				07/11/19	AG	

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	0.070	mg/L	1	07/15/19	JRB	CTETPH 8015D
Identification	ND		mg/L	1	07/15/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	67	%	1	07/15/19	JRB	50 - 150 %
-----------------	----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	07/12/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
Acetone	ND	25	ug/L	1	07/12/19	MH	SW8260C
Acrylonitrile	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	07/12/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	07/12/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	07/12/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
sec-Butylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	07/12/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	07/12/19	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	96		%	1	07/12/19	MH	70 - 130 %
% Bromofluorobenzene	98		%	1	07/12/19	MH	70 - 130 %
% Dibromofluoromethane	95		%	1	07/12/19	MH	70 - 130 %
% Toluene-d8	91		%	1	07/12/19	MH	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	3.4	ug/L	1	07/18/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	07/18/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	07/18/19	WB	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	07/18/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
2,4-Dinitrotoluene	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
2,6-Dinitrotoluene	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
2-Chloronaphthalene	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
2-Chlorophenol	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
2-Nitroaniline	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
2-Nitrophenol	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	9.8	ug/L	1	07/18/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
3-Nitroaniline	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
4-Chloroaniline	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
4-Nitroaniline	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
4-Nitrophenol	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
Acetophenone	ND	4.9	ug/L	1	07/18/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Aniline	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
Benzidine	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
Benzoic acid	ND	49	ug/L	1	07/18/19	WB	SW8270D
Benzyl butyl phthalate	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
Carbazole	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
Dibenzofuran	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
Diethyl phthalate	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
Dimethylphthalate	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
Di-n-butylphthalate	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
Di-n-octylphthalate	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
Hexachloroethane	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
Isophorone	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
N-Nitrosodimethylamine	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	4.9	ug/L	1	07/18/19	WB	SW8270D
Pentachloronitrobenzene	ND	2.5	ug/L	1	07/18/19	WB	SW8270D
Phenol	ND	0.98	ug/L	1	07/18/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	88		%	1	07/18/19	WB	15 - 110 %
% 2-Fluorobiphenyl	71		%	1	07/18/19	WB	30 - 130 %
% 2-Fluorophenol	55		%	1	07/18/19	WB	15 - 110 %
% Nitrobenzene-d5	63		%	1	07/18/19	WB	30 - 130 %
% Phenol-d5	50		%	1	07/18/19	WB	15 - 110 %
% Terphenyl-d14	77		%	1	07/18/19	WB	30 - 130 %
<b><u>Semivolatiles (SIM)</u></b>							
2-Methylnaphthalene	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.29	ug/L	1	07/17/19	WB	SW8270D (SIM)
Anthracene	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benz(a)anthracene	ND	0.05	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.20	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.07	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.29	ug/L	1	07/17/19	WB	SW8270D (SIM)
Chrysene	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.10	ug/L	1	07/17/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)
Fluorene	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)
Hexachlorobenzene	ND	0.06	ug/L	1	07/17/19	WB	SW8270D (SIM)
Hexachlorobutadiene	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)
Hexachlorocyclopentadiene	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	07/17/19	WB	SW8270D (SIM)
Naphthalene	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)
Nitrobenzene	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)
Pentachlorophenol	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phenanthrene	ND	0.06	ug/L	1	07/17/19	WB	SW8270D (SIM)
Pyrene	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)
Pyridine	ND	0.49	ug/L	1	07/17/19	WB	SW8270D (SIM)
<b>QA/QC Surrogates</b>							
% 2,4,6-Tribromophenol	81		%	1	07/17/19	WB	15 - 110 %
% 2-Fluorobiphenyl	70		%	1	07/17/19	WB	30 - 130 %
% 2-Fluorophenol	62		%	1	07/17/19	WB	15 - 110 %
% Nitrobenzene-d5	67		%	1	07/17/19	WB	30 - 130 %
% Phenol-d5	70		%	1	07/17/19	WB	15 - 110 %
% Terphenyl-d14	74		%	1	07/17/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102      Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix: GROUND WATER  
Location Code: TRC-DOT  
Rush Request: 72 Hour  
P.O. #:

### Custody Information

Collected by:  
Received by: SW  
Analyzed by: see "By" below

Date

Time

SDG ID: GCD55026  
Phoenix ID: CD55029

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: FB07112019

### Laboratory Data

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	07/12/19	TH	SW6010D
Arsenic	< 0.004	0.004	mg/L	1	07/12/19	TH	SW6010D
Barium	< 0.002	0.002	mg/L	1	07/12/19	TH	SW6010D
Cadmium	< 0.001	0.001	mg/L	1	07/12/19	TH	SW6010D
Chromium	< 0.001	0.001	mg/L	1	07/12/19	TH	SW6010D
Mercury	< 0.0002	0.0002	mg/L	1	07/12/19	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	07/12/19	TH	SW6010D
Selenium	< 0.010	0.010	mg/L	1	07/12/19	TH	SW6010D
Extraction of CT ETPH	Completed				07/11/19	P/AK	SW3510C/SW3520C
Mercury Digestion	Completed				07/12/19	I/I	SW7470A
Semi-Volatile Extraction	Completed				07/15/19	P/AK	SW3520C
Total Metals Digestion	Completed				07/11/19	AG	

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	0.070	mg/L	1	07/15/19	JRB	CTETPH 8015D
Identification	ND		mg/L	1	07/15/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	63	%	1	07/15/19	JRB	50 - 150 %
-----------------	----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	07/12/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
Acetone	ND	25	ug/L	1	07/12/19	MH	SW8260C
Acrylonitrile	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	07/12/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	07/12/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	07/12/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
sec-Butylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	07/12/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	07/12/19	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	94		%	1	07/12/19	MH	70 - 130 %
% Bromofluorobenzene	97		%	1	07/12/19	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	07/12/19	MH	70 - 130 %
% Toluene-d8	91		%	1	07/12/19	MH	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	3.5	ug/L	1	07/18/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	07/18/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	07/18/19	WB	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	07/18/19	WB	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	07/18/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	07/18/19	WB	SW8270D
2,6-Dinitrotoluene	ND	5.0	ug/L	1	07/18/19	WB	SW8270D
2-Chloronaphthalene	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
2-Chlorophenol	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
2-Nitroaniline	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
2-Nitrophenol	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	07/18/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	07/18/19	WB	SW8270D
3-Nitroaniline	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
4-Chloroaniline	ND	5.0	ug/L	1	07/18/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
4-Nitroaniline	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
4-Nitrophenol	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
Acetophenone	ND	5.1	ug/L	1	07/18/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Aniline	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
Benzidine	ND	5.0	ug/L	1	07/18/19	WB	SW8270D
Benzoic acid	ND	51	ug/L	1	07/18/19	WB	SW8270D
Benzyl butyl phthalate	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
Carbazole	ND	5.0	ug/L	1	07/18/19	WB	SW8270D
Dibenzofuran	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
Diethyl phthalate	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
Dimethylphthalate	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
Di-n-butylphthalate	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
Di-n-octylphthalate	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
Hexachloroethane	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
Isophorone	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
N-Nitrosodimethylamine	ND	5.0	ug/L	1	07/18/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	07/18/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	5.1	ug/L	1	07/18/19	WB	SW8270D
Pentachloronitrobenzene	ND	2.5	ug/L	1	07/18/19	WB	SW8270D
Phenol	ND	1.0	ug/L	1	07/18/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	89		%	1	07/18/19	WB	15 - 110 %
% 2-Fluorobiphenyl	70		%	1	07/18/19	WB	30 - 130 %
% 2-Fluorophenol	66		%	1	07/18/19	WB	15 - 110 %
% Nitrobenzene-d5	76		%	1	07/18/19	WB	30 - 130 %
% Phenol-d5	71		%	1	07/18/19	WB	15 - 110 %
% Terphenyl-d14	78		%	1	07/18/19	WB	30 - 130 %
<b><u>Semivolatiles (SIM)</u></b>							
2-Methylnaphthalene	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.30	ug/L	1	07/17/19	WB	SW8270D (SIM)
Anthracene	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benz(a)anthracene	ND	0.05	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.20	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.07	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.48	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.30	ug/L	1	07/17/19	WB	SW8270D (SIM)
Chrysene	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.10	ug/L	1	07/17/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)
Fluorene	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)
Hexachlorobenzene	ND	0.06	ug/L	1	07/17/19	WB	SW8270D (SIM)
Hexachlorobutadiene	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)
Hexachlorocyclopentadiene	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	07/17/19	WB	SW8270D (SIM)
Naphthalene	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)
Nitrobenzene	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)
Pentachlorophenol	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phenanthrene	ND	0.06	ug/L	1	07/17/19	WB	SW8270D (SIM)
Pyrene	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)
Pyridine	ND	0.51	ug/L	1	07/17/19	WB	SW8270D (SIM)
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	77		%	1	07/17/19	WB	15 - 110 %
% 2-Fluorobiphenyl	68		%	1	07/17/19	WB	30 - 130 %
% 2-Fluorophenol	65		%	1	07/17/19	WB	15 - 110 %
% Nitrobenzene-d5	64		%	1	07/17/19	WB	30 - 130 %
% Phenol-d5	70		%	1	07/17/19	WB	15 - 110 %
% Terphenyl-d14	71		%	1	07/17/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix: WATER  
Location Code: TRC-DOT  
Rush Request: 72 Hour  
P.O. #:

### Custody Information

Collected by:  
Received by: SW  
Analyzed by: see "By" below

Date

Time

07/11/19 8:35  
07/11/19 16:38

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: TB07112019

### Laboratory Data

SDG ID: GCD55026

Phoenix ID: CD55030

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
-----------	--------	------------	-------	----------	-----------	----	-----------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	07/12/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	07/12/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	25	ug/L	1	07/12/19	MH	SW8260C
Acrylonitrile	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	07/12/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Bromochloromethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	07/12/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	07/12/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	07/12/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	07/12/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	07/12/19	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	07/12/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	07/12/19	MH	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	93		%	1	07/12/19	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	07/12/19	MH	70 - 130 %
% Dibromofluoromethane	92		%	1	07/12/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	91		%	1	07/12/19	MH	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

TRIP BLANK INCLUDED.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix: SOIL  
Location Code: TRC-DOT  
Rush Request: 72 Hour  
P.O. #:

### Custody Information

Collected by:  
Received by: SW  
Analyzed by: see "By" below

Date

Time

07/11/19 8:40  
07/11/19 16:38

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: SB07112019 LL

### Laboratory Data

SDG ID: GCD55026

Phoenix ID: CD55031

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
-----------	--------	------------	-------	----------	-----------	----	-----------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.003	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.025	mg/Kg	1	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.025	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	0.25	mg/Kg	1	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Benzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Bromoform	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Bromomethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroform	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Chloromethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.003	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.03	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Naphthalene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
o-Xylene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
p-Isopropyltoluene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Styrene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Toluene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	96		%	1	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene	100		%	1	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane	102		%	1	07/12/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	98		%	1	07/12/19	JLI	70 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

TRIP BLANK INCLUDED.

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix:	SOIL	Collected by:	07/11/19	9:00
Location Code:	TRC-DOT	Received by:	SW	07/11/19
Rush Request:	72 Hour	Analyzed by:	see "By" below	
P.O.#:				

### Custody Information

Date

Time

SDG ID: GCD55026

Phoenix ID: CD55032

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-SB102 (2-4)

### Laboratory Data

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.30	0.30	mg/Kg	1	07/12/19	TH	SW6010D
Arsenic	4.83	0.60	mg/Kg	1	07/12/19	TH	SW6010D
Barium	22.3	0.30	mg/Kg	1	07/12/19	TH	SW6010D
Cadmium	< 0.30	0.30	mg/Kg	1	07/12/19	TH	SW6010D
Chromium	12.0	0.30	mg/Kg	1	07/12/19	TH	SW6010D
Mercury	< 0.02	0.02	mg/Kg	2	07/12/19	RS	SW7471B
Lead	3.28	0.30	mg/Kg	1	07/12/19	TH	SW6010D
Selenium	< 1.2	1.2	mg/Kg	1	07/12/19	TH	SW6010D
Percent Solid	98		%		07/11/19	ML	SW846-%Solid
Soil Extraction for SVOA	Completed				07/15/19	NT/LV	SW3545A
Extraction of CT ETPH	Completed				07/11/19	Q/G/E	SW3545A
Mercury Digestion	Completed				07/12/19	LS/LS	SW7471B
Total Metals Digest	Completed				07/11/19	S/AG/BF	SW3050B

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	50	mg/Kg	1	07/13/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	07/13/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	74	%	1	07/13/19	JRB	50 - 150 %
-----------------	----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0042	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichlorobenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.035	mg/Kg	1	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.035	mg/Kg	1	07/12/19	JLI	SW8260C
Acetone	ND	0.35	mg/Kg	1	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Benzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Bromoform	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Bromomethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroform	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Chloromethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.0042	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.042	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.014	mg/Kg	1	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.014	mg/Kg	1	07/12/19	JLI	SW8260C
Naphthalene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
o-Xylene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
p-Isopropyltoluene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Styrene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.014	mg/Kg	1	07/12/19	JLI	SW8260C
Toluene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.014	mg/Kg	1	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.014	mg/Kg	1	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.007	mg/Kg	1	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	96		%	1	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene	99		%	1	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane	101		%	1	07/12/19	JLI	70 - 130 %
% Toluene-d8	98		%	1	07/12/19	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	07/16/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Dichlorobenzene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
1,3-Dichlorobenzene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
1,4-Dichlorobenzene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2-Chloronaphthalene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2-Chlorophenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylnaphthalene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitrophenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	0.33	mg/Kg	1	07/16/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
3-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	0.33	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloroaniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
4-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitrophenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthylene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Acetophenone	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Aniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Anthracene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Benz(a)anthracene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Benzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(a)pyrene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Benzoic acid	ND	0.67	mg/Kg	1	07/16/19	WB	SW8270D
Benzyl butyl phthalate	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.33	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Carbazole	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Chrysene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Dibenzofuran	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Diethyl phthalate	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Dimethylphthalate	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-butylphthalate	ND	0.33	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-octylphthalate	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Fluoranthene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Fluorene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobenzene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobutadiene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorocyclopentadiene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Hexachloroethane	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Isophorone	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Naphthalene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Pentachloronitrobenzene	ND	0.14	mg/Kg	1	07/16/19	WB	SW8270D
Pentachlorophenol	ND	0.33	mg/Kg	1	07/16/19	WB	SW8270D
Phenanthrene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Phenol	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Pyrene	ND	0.23	mg/Kg	1	07/16/19	WB	SW8270D
Pyridine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	56		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorobiphenyl	49		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorophenol	40		%	1	07/16/19	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Nitrobenzene-d5	44		%	1	07/16/19	WB	30 - 130 %
% Phenol-d5	45		%	1	07/16/19	WB	30 - 130 %
% Terphenyl-d14	62		%	1	07/16/19	WB	30 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102      Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix: GROUND WATER  
Location Code: TRC-DOT  
Rush Request: 72 Hour  
P.O. #:

### Custody Information

Collected by:  
Received by: SW  
Analyzed by: see "By" below

Date

Time

07/11/19      9:10  
07/11/19      16:38

## Laboratory Data

SDG ID: GCD55026

Phoenix ID: CD55033

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-GW102

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	07/12/19	TH	SW6010D
Arsenic	0.004	0.004	mg/L	1	07/12/19	TH	SW6010D
Barium	0.063	0.002	mg/L	1	07/12/19	TH	SW6010D
Cadmium	< 0.001	0.001	mg/L	1	07/12/19	TH	SW6010D
Chromium	0.012	0.001	mg/L	1	07/12/19	TH	SW6010D
Mercury	< 0.0002	0.0002	mg/L	1	07/15/19	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	07/12/19	TH	SW6010D
Selenium	< 0.010	0.010	mg/L	1	07/12/19	TH	SW6010D
Extraction of CT ETPH	Completed				07/11/19	P/AK	SW3510C/SW3520C
Mercury Digestion	Completed				07/15/19	I/LS	SW7470A
Semi-Volatile Extraction	Completed				07/15/19	P/AK	SW3520C
Total Metals Digestion	Completed				07/11/19	AG	

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	0.066	mg/L	1	07/16/19	JRB	CTETPH 8015D
Identification	ND		mg/L	1	07/16/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	91	%	1	07/16/19	JRB	50 - 150 %
-----------------	----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	07/13/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	07/13/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	07/13/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	07/13/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	07/13/19	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	07/13/19	MH	SW8260C
Acetone	ND	25	ug/L	1	07/13/19	MH	SW8260C
Acrylonitrile	ND	0.50	ug/L	1	07/13/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	07/13/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	07/13/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	07/13/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	07/13/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	07/13/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	07/13/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	07/13/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
sec-Butylbenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	07/13/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	07/13/19	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	07/13/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	07/13/19	MH	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	95		%	1	07/13/19	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	07/13/19	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	07/13/19	MH	70 - 130 %
% Toluene-d8	92		%	1	07/13/19	MH	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	3.3	ug/L	1	07/18/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
1,2-Dichlorobenzene	ND	2.4	ug/L	1	07/18/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
1,3-Dichlorobenzene	ND	2.4	ug/L	1	07/18/19	WB	SW8270D
1,4-Dichlorobenzene	ND	2.4	ug/L	1	07/18/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
2,4-Dinitrotoluene	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
2,6-Dinitrotoluene	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
2-Chloronaphthalene	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
2-Chlorophenol	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
2-Nitroaniline	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
2-Nitrophenol	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	9.4	ug/L	1	07/18/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
3-Nitroaniline	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
4-Chloroaniline	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
4-Nitroaniline	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
4-Nitrophenol	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
Acetophenone	ND	4.7	ug/L	1	07/18/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Aniline	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
Benzidine	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
Benzoic acid	ND	47	ug/L	1	07/18/19	WB	SW8270D
Benzyl butyl phthalate	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
Carbazole	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
Dibenzofuran	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
Diethyl phthalate	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
Dimethylphthalate	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
Di-n-butylphthalate	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
Di-n-octylphthalate	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
Hexachloroethane	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
Isophorone	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
N-Nitrosodimethylamine	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	4.7	ug/L	1	07/18/19	WB	SW8270D
Pentachloronitrobenzene	ND	2.4	ug/L	1	07/18/19	WB	SW8270D
Phenol	ND	0.94	ug/L	1	07/18/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	83		%	1	07/18/19	WB	15 - 110 %
% 2-Fluorobiphenyl	75		%	1	07/18/19	WB	30 - 130 %
% 2-Fluorophenol	57		%	1	07/18/19	WB	15 - 110 %
% Nitrobenzene-d5	64		%	1	07/18/19	WB	30 - 130 %
% Phenol-d5	56		%	1	07/18/19	WB	15 - 110 %
% Terphenyl-d14	74		%	1	07/18/19	WB	30 - 130 %
<b><u>Semivolatiles (SIM)</u></b>							
2-Methylnaphthalene	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.28	ug/L	1	07/17/19	WB	SW8270D (SIM)
Anthracene	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benz(a)anthracene	ND	0.05	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.07	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.45	ug/L	1	07/17/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.28	ug/L	1	07/17/19	WB	SW8270D (SIM)
Chrysene	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.09	ug/L	1	07/17/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
Fluorene	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
Hexachlorobenzene	ND	0.06	ug/L	1	07/17/19	WB	SW8270D (SIM)
Hexachlorobutadiene	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
Hexachlorocyclopentadiene	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	07/17/19	WB	SW8270D (SIM)
Naphthalene	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
Nitrobenzene	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
Pentachlorophenol	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phenanthrene	ND	0.06	ug/L	1	07/17/19	WB	SW8270D (SIM)
Pyrene	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
Pyridine	ND	0.47	ug/L	1	07/17/19	WB	SW8270D (SIM)
<b>QA/QC Surrogates</b>							
% 2,4,6-Tribromophenol	93		%	1	07/17/19	WB	15 - 110 %
% 2-Fluorobiphenyl	69		%	1	07/17/19	WB	30 - 130 %
% 2-Fluorophenol	69		%	1	07/17/19	WB	15 - 110 %
% Nitrobenzene-d5	82		%	1	07/17/19	WB	30 - 130 %
% Phenol-d5	83		%	1	07/17/19	WB	15 - 110 %
% Terphenyl-d14	75		%	1	07/17/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix:	SOIL	Collected by:	07/11/19	9:45
Location Code:	TRC-DOT	Received by:	SW	07/11/19
Rush Request:	72 Hour	Analyzed by:	see "By" below	
P.O.#:				

### Custody Information

Date

Time

SDG ID: GCD55026

Phoenix ID: CD55034

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-SB103 (2-4)

### Laboratory Data

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.35	0.35	mg/Kg	1	07/12/19	TH	SW6010D
Arsenic	6.89	0.70	mg/Kg	1	07/12/19	TH	SW6010D
Barium	30.7	0.35	mg/Kg	1	07/12/19	TH	SW6010D
Cadmium	< 0.35	0.35	mg/Kg	1	07/12/19	TH	SW6010D
Chromium	14.8	0.35	mg/Kg	1	07/12/19	TH	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	07/12/19	RS	SW7471B
Lead	3.53	0.35	mg/Kg	1	07/12/19	TH	SW6010D
Selenium	< 1.4	1.4	mg/Kg	1	07/12/19	TH	SW6010D
Percent Solid	98		%		07/11/19	ML	SW846-%Solid
Soil Extraction for SVOA	Completed				07/15/19	NT/LV	SW3545A
Extraction of CT ETPH	Completed				07/11/19	Q/G/E	SW3545A
Mercury Digestion	Completed				07/12/19	LS/LS	SW7471B
Total Metals Digest	Completed				07/11/19	S/AG/BF	SW3050B

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	50	mg/Kg	1	07/13/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	07/13/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	76	%	1	07/13/19	JRB	50 - 150 %
-----------------	----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0031	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichlorobenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.026	mg/Kg	1	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.026	mg/Kg	1	07/12/19	JLI	SW8260C
Acetone	ND	0.26	mg/Kg	1	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Benzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Bromoform	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Bromomethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroform	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Chloromethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.0031	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.031	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Naphthalene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
o-Xylene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
p-Isopropyltoluene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Styrene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Toluene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.0052	mg/Kg	1	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	96		%	1	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene	100		%	1	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane	100		%	1	07/12/19	JLI	70 - 130 %
% Toluene-d8	99		%	1	07/12/19	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	07/16/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
1,3-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,4-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2-Chloronaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Chlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylnaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
3-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloroaniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acetophenone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Aniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benz(a)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(a)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzoic acid	ND	0.68	mg/Kg	1	07/16/19	WB	SW8270D
Benzyl butyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Carbazole	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Chrysene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenzofuran	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Diethyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dimethylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-butylphthalate	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-octylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluorene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobutadiene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorocyclopentadiene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachloroethane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Isophorone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Naphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Pentachloronitrobenzene	ND	0.14	mg/Kg	1	07/16/19	WB	SW8270D
Pentachlorophenol	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Phenanthrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Phenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyridine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	59		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorobiphenyl	52		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorophenol	48		%	1	07/16/19	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Nitrobenzene-d5	56		%	1	07/16/19	WB	30 - 130 %
% Phenol-d5	52		%	1	07/16/19	WB	30 - 130 %
% Terphenyl-d14	62		%	1	07/16/19	WB	30 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix:	SOIL	Collected by:	07/11/19	10:00
Location Code:	TRC-DOT	Received by:	SW	07/11/19
Rush Request:	72 Hour	Analyzed by:	see "By" below	
P.O.#:				

### Custody Information

Date

Time

SDG ID: GCD55026

Phoenix ID: CD55035

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-SB104 (2-4)

### Laboratory Data

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.37	0.37	mg/Kg	1	07/12/19	TH	SW6010D
Arsenic	6.80	0.74	mg/Kg	1	07/12/19	TH	SW6010D
Barium	26.2	0.37	mg/Kg	1	07/12/19	TH	SW6010D
Cadmium	< 0.37	0.37	mg/Kg	1	07/12/19	TH	SW6010D
Chromium	23.5	0.37	mg/Kg	1	07/12/19	TH	SW6010D
Mercury	< 0.02	0.02	mg/Kg	2	07/12/19	RS	SW7471B
Lead	3.73	0.37	mg/Kg	1	07/12/19	TH	SW6010D
Selenium	< 1.5	1.5	mg/Kg	1	07/12/19	TH	SW6010D
Percent Solid	96		%		07/11/19	ML	SW846-%Solid
Soil Extraction for SVOA	Completed				07/15/19	NT/LV	SW3545A
Extraction of CT ETPH	Completed				07/11/19	Q/G/E	SW3545A
Mercury Digestion	Completed				07/12/19	LS/LS	SW7471B
Total Metals Digest	Completed				07/11/19	S/AG/BF	SW3050B

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	51	mg/Kg	1	07/13/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	07/13/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	68	%	1	07/13/19	JRB	50 - 150 %
-----------------	----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0026	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.022	mg/Kg	1	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.022	mg/Kg	1	07/12/19	JLI	SW8260C
Acetone	ND	0.22	mg/Kg	1	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Benzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromoform	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromomethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroform	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Chloromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.0026	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.026	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.0086	mg/Kg	1	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.0086	mg/Kg	1	07/12/19	JLI	SW8260C
Naphthalene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
o-Xylene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
p-Isopropyltoluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Styrene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.0086	mg/Kg	1	07/12/19	JLI	SW8260C
Toluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.0086	mg/Kg	1	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.0086	mg/Kg	1	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	97		%	1	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene	100		%	1	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	07/12/19	JLI	70 - 130 %
% Toluene-d8	100		%	1	07/12/19	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	07/16/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
1,3-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,4-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2-Chloronaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Chlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylnaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
3-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloroaniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acetophenone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Aniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benz(a)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(a)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzoic acid	ND	0.69	mg/Kg	1	07/16/19	WB	SW8270D
Benzyl butyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Carbazole	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Chrysene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenzofuran	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Diethyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dimethylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-butylphthalate	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-octylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluorene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobutadiene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorocyclopentadiene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachloroethane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Isophorone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Naphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Pentachloronitrobenzene	ND	0.14	mg/Kg	1	07/16/19	WB	SW8270D
Pentachlorophenol	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Phenanthrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Phenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyridine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	62		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorobiphenyl	47		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorophenol	40		%	1	07/16/19	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Nitrobenzene-d5	46		%	1	07/16/19	WB	30 - 130 %
% Phenol-d5	45		%	1	07/16/19	WB	30 - 130 %
% Terphenyl-d14	58		%	1	07/16/19	WB	30 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

#### Semi-Volatile Comment:

Poor surrogate recovery was observed for one acid and/or one base surrogate. The other surrogates associated with this sample were within QA/QC criteria. No significant bias suspected.

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix:	SOIL	Collected by:	07/11/19	10:15
Location Code:	TRC-DOT	Received by:	SW	07/11/19
Rush Request:	72 Hour	Analyzed by:	see "By" below	
P.O.#:				

### Custody Information

Date

Time

SDG ID: GCD55026

Phoenix ID: CD55036

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-SB104 (12-14)

### Laboratory Data

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.38	0.38	mg/Kg	1	07/12/19	TH	SW6010D
Arsenic	5.14	0.76	mg/Kg	1	07/12/19	TH	SW6010D
Barium	22.8	0.38	mg/Kg	1	07/12/19	TH	SW6010D
Cadmium	< 0.38	0.38	mg/Kg	1	07/12/19	TH	SW6010D
Chromium	17.7	0.38	mg/Kg	1	07/12/19	TH	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	07/12/19	RS	SW7471B
Lead	2.12	0.38	mg/Kg	1	07/12/19	TH	SW6010D
Selenium	< 1.5	1.5	mg/Kg	1	07/12/19	TH	SW6010D
Percent Solid	94		%		07/11/19	ML	SW846-%Solid
Soil Extraction for SVOA	Completed				07/15/19	NT/LV	SW3545A
Extraction of CT ETPH	Completed				07/11/19	Q/G/E	SW3545A
Mercury Digestion	Completed				07/12/19	LS/LS	SW7471B
Total Metals Digest	Completed				07/11/19	S/AG/BF	SW3050B

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	53	mg/Kg	1	07/13/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	07/13/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	75	%	1	07/13/19	JRB	50 - 150 %
-----------------	----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0036	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichlorobenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.03	mg/Kg	1	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.03	mg/Kg	1	07/12/19	JLI	SW8260C
Acetone	ND	0.3	mg/Kg	1	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Benzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Bromoform	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Bromomethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroform	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Chloromethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.0036	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.036	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.012	mg/Kg	1	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.012	mg/Kg	1	07/12/19	JLI	SW8260C
Naphthalene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
o-Xylene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
p-Isopropyltoluene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Styrene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.012	mg/Kg	1	07/12/19	JLI	SW8260C
Toluene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.012	mg/Kg	1	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.012	mg/Kg	1	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.006	mg/Kg	1	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	96		%	1	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene	101		%	1	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	07/12/19	JLI	70 - 130 %
% Toluene-d8	99		%	1	07/12/19	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	07/16/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
1,3-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,4-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2-Chloronaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Chlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylnaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	0.35	mg/Kg	1	07/16/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
3-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	0.35	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloroaniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acetophenone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Aniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benz(a)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(a)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzoic acid	ND	0.7	mg/Kg	1	07/16/19	WB	SW8270D
Benzyl butyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.35	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Carbazole	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Chrysene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenzofuran	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Diethyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dimethylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-butylphthalate	ND	0.35	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-octylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluorene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobutadiene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorocyclopentadiene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachloroethane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Isophorone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Naphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Pentachloronitrobenzene	ND	0.14	mg/Kg	1	07/16/19	WB	SW8270D
Pentachlorophenol	ND	0.35	mg/Kg	1	07/16/19	WB	SW8270D
Phenanthrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Phenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyridine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	58		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorobiphenyl	33		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorophenol	25		%	1	07/16/19	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Nitrobenzene-d5	30		%	1	07/16/19	WB	30 - 130 %
% Phenol-d5	31		%	1	07/16/19	WB	30 - 130 %
% Terphenyl-d14	51		%	1	07/16/19	WB	30 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

3 = This parameter exceeds laboratory specified limits.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

#### Semi-Volatile Comment:

Poor surrogate recovery was observed for one acid and/or one base surrogate. The other surrogates associated with this sample were within QA/QC criteria. No significant bias suspected.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**

**July 19, 2019**

**Reviewed and Released by: Rashmi Makol, Project Manager**



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix:	SOIL	Collected by:	07/11/19	12:30
Location Code:	TRC-DOT	Received by:	SW	07/11/19
Rush Request:	72 Hour	Analyzed by:	see "By" below	
P.O.#:				

### Custody Information

Date

Time

SDG ID: GCD55026

Phoenix ID: CD55037

### Laboratory Data

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-SB105 (2-4)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.39	0.39	mg/Kg	1	07/12/19	TH	SW6010D
Arsenic	6.61	0.79	mg/Kg	1	07/12/19	TH	SW6010D
Barium	44.9	0.39	mg/Kg	1	07/12/19	TH	SW6010D
Cadmium	< 0.39	0.39	mg/Kg	1	07/12/19	TH	SW6010D
Chromium	23.5	0.39	mg/Kg	1	07/12/19	TH	SW6010D
Mercury	< 0.07	0.07	mg/Kg	5	07/12/19	RS	SW7471B
Lead	5.31	0.39	mg/Kg	1	07/12/19	TH	SW6010D
Selenium	< 1.6	1.6	mg/Kg	1	07/12/19	TH	SW6010D
Percent Solid	87		%		07/11/19	ML	SW846-%Solid
Soil Extraction for SVOA	Completed				07/15/19	NT/LV	SW3545A
Extraction of CT ETPH	Completed				07/11/19	Q/G/E	SW3545A
Mercury Digestion	Completed				07/12/19	LS/LS	SW7471B
Total Metals Digest	Completed				07/11/19	S/AG/BF	SW3050B

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	57	mg/Kg	1	07/13/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	07/13/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	80	%	1	07/13/19	JRB	50 - 150 %
-----------------	----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0039	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichlorobenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.032	mg/Kg	1	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.032	mg/Kg	1	07/12/19	JLI	SW8260C
Acetone	ND	0.32	mg/Kg	1	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Benzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Bromoform	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Bromomethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroform	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Chloromethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.0039	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.039	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.013	mg/Kg	1	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.013	mg/Kg	1	07/12/19	JLI	SW8260C
Naphthalene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
o-Xylene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
p-Isopropyltoluene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Styrene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.013	mg/Kg	1	07/12/19	JLI	SW8260C
Toluene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.013	mg/Kg	1	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.013	mg/Kg	1	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.0064	mg/Kg	1	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	95		%	1	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene	93		%	1	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	07/12/19	JLI	70 - 130 %
% Toluene-d8	97		%	1	07/12/19	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	07/16/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Dichlorobenzene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
1,3-Dichlorobenzene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
1,4-Dichlorobenzene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2-Chloronaphthalene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
2-Chlorophenol	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylnaphthalene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitrophenol	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	0.37	mg/Kg	1	07/16/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
3-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	0.37	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloroaniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
4-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitrophenol	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthylene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Acetophenone	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Aniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Anthracene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Benz(a)anthracene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Benzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(a)pyrene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Benzoic acid	ND	0.75	mg/Kg	1	07/16/19	WB	SW8270D
Benzyl butyl phthalate	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.37	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Carbazole	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Chrysene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Dibenzofuran	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Diethyl phthalate	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Dimethylphthalate	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-butylphthalate	ND	0.37	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-octylphthalate	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Fluoranthene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Fluorene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobenzene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobutadiene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorocyclopentadiene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Hexachloroethane	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Isophorone	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Naphthalene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Pentachloronitrobenzene	ND	0.14	mg/Kg	1	07/16/19	WB	SW8270D
Pentachlorophenol	ND	0.37	mg/Kg	1	07/16/19	WB	SW8270D
Phenanthrene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Phenol	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Pyrene	ND	0.26	mg/Kg	1	07/16/19	WB	SW8270D
Pyridine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	75		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorobiphenyl	68		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorophenol	58		%	1	07/16/19	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Nitrobenzene-d5	66		%	1	07/16/19	WB	30 - 130 %
% Phenol-d5	64		%	1	07/16/19	WB	30 - 130 %
% Terphenyl-d14	71		%	1	07/16/19	WB	30 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix:	SOIL	Collected by:	07/11/19	13:00
Location Code:	TRC-DOT	Received by:	SW	07/11/19
Rush Request:	72 Hour	Analyzed by:	see "By" below	
P.O.#:				

### Custody Information

Date

Time

SDG ID: GCD55026  
Phoenix ID: CD55038

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-SB106 (2-4)

### Laboratory Data

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.33	0.33	mg/Kg	1	07/12/19	TH	SW6010D
Arsenic	5.41	0.67	mg/Kg	1	07/12/19	TH	SW6010D
Barium	53.5	0.33	mg/Kg	1	07/12/19	TH	SW6010D
Cadmium	< 0.33	0.33	mg/Kg	1	07/12/19	TH	SW6010D
Chromium	26.0	0.33	mg/Kg	1	07/12/19	TH	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	07/12/19	RS	SW7471B
Lead	3.16	0.33	mg/Kg	1	07/12/19	TH	SW6010D
Selenium	< 1.3	1.3	mg/Kg	1	07/12/19	EK	SW6010D
Percent Solid	96		%		07/11/19	ML	SW846-%Solid
Soil Extraction for SVOA	Completed				07/15/19	NT/LV	SW3545A
Extraction of CT ETPH	Completed				07/12/19	GG/L	SW3545A
Mercury Digestion	Completed				07/12/19	LS/LS	SW7471B
Total Metals Digest	Completed				07/11/19	S/AG/BF	SW3050B

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	52	mg/Kg	1	07/13/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	07/13/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	61	%	1	07/13/19	JRB	50 - 150 %
-----------------	----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0034	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichlorobenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.029	mg/Kg	1	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.029	mg/Kg	1	07/12/19	JLI	SW8260C
Acetone	ND	0.29	mg/Kg	1	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Benzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Bromoform	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Bromomethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroform	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Chloromethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.0034	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.034	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.011	mg/Kg	1	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.011	mg/Kg	1	07/12/19	JLI	SW8260C
Naphthalene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
o-Xylene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
p-Isopropyltoluene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Styrene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.011	mg/Kg	1	07/12/19	JLI	SW8260C
Toluene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.011	mg/Kg	1	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.011	mg/Kg	1	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.0057	mg/Kg	1	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	96		%	1	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene	99		%	1	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	07/12/19	JLI	70 - 130 %
% Toluene-d8	99		%	1	07/12/19	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	07/16/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
1,3-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,4-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2-Chloronaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Chlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylnaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	0.35	mg/Kg	1	07/16/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
3-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	0.35	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloroaniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acetophenone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Aniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benz(a)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(a)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzoic acid	ND	0.69	mg/Kg	1	07/16/19	WB	SW8270D
Benzyl butyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.35	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Carbazole	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Chrysene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenzofuran	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Diethyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dimethylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-butylphthalate	ND	0.35	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-octylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluorene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobutadiene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorocyclopentadiene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachloroethane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Isophorone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Naphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Pentachloronitrobenzene	ND	0.14	mg/Kg	1	07/16/19	WB	SW8270D
Pentachlorophenol	ND	0.35	mg/Kg	1	07/16/19	WB	SW8270D
Phenanthrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Phenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyridine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	76		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorobiphenyl	61		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorophenol	53		%	1	07/16/19	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Nitrobenzene-d5	61		%	1	07/16/19	WB	30 - 130 %
% Phenol-d5	58		%	1	07/16/19	WB	30 - 130 %
% Terphenyl-d14	70		%	1	07/16/19	WB	30 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix:	SOIL	Collected by:	07/11/19	13:45
Location Code:	TRC-DOT	Received by:	SW	07/11/19
Rush Request:	72 Hour	Analyzed by:	see "By" below	
P.O.#:				

### Custody Information

Date

Time

SDG ID: GCD55026

Phoenix ID: CD55039

### Laboratory Data

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-SB107 (2-4)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.36	0.36	mg/Kg	1	07/12/19	TH	SW6010D
Arsenic	5.13	0.73	mg/Kg	1	07/12/19	TH	SW6010D
Barium	20.3	0.36	mg/Kg	1	07/12/19	TH	SW6010D
Cadmium	< 0.36	0.36	mg/Kg	1	07/12/19	TH	SW6010D
Chromium	14.4	0.36	mg/Kg	1	07/12/19	TH	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	07/12/19	RS	SW7471B
Lead	2.20	0.36	mg/Kg	1	07/12/19	TH	SW6010D
Selenium	< 1.5	1.5	mg/Kg	1	07/12/19	TH	SW6010D
Percent Solid	98		%		07/11/19	ML	SW846-%Solid
Soil Extraction for SVOA	Completed				07/15/19	NT/LV	SW3545A
Extraction of CT ETPH	Completed				07/11/19	Q/G/L	SW3545A
Mercury Digestion	Completed				07/12/19	LS/LS	SW7471B
Total Metals Digest	Completed				07/11/19	S/AG/BF	SW3050B

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	50	mg/Kg	1	07/13/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	07/13/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	107	%	1	07/13/19	JRB	50 - 150 %
-----------------	-----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0032	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichlorobenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.027	mg/Kg	1	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.027	mg/Kg	1	07/12/19	JLI	SW8260C
Acetone	ND	0.27	mg/Kg	1	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Benzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Bromoform	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Bromomethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroform	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Chloromethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.0032	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.032	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.011	mg/Kg	1	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.011	mg/Kg	1	07/12/19	JLI	SW8260C
Naphthalene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
o-Xylene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
p-Isopropyltoluene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Styrene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.011	mg/Kg	1	07/12/19	JLI	SW8260C
Toluene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.011	mg/Kg	1	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.011	mg/Kg	1	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.0054	mg/Kg	1	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	95		%	1	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene	99		%	1	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	07/12/19	JLI	70 - 130 %
% Toluene-d8	99		%	1	07/12/19	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	07/16/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
1,3-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,4-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2-Chloronaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Chlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylnaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
3-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloroaniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acetophenone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Aniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benz(a)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(a)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzoic acid	ND	0.68	mg/Kg	1	07/16/19	WB	SW8270D
Benzyl butyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Carbazole	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Chrysene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenzofuran	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Diethyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dimethylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-butylphthalate	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-octylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluorene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobutadiene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorocyclopentadiene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachloroethane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Isophorone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Naphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Pentachloronitrobenzene	ND	0.14	mg/Kg	1	07/16/19	WB	SW8270D
Pentachlorophenol	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Phenanthrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Phenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyridine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	64		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorobiphenyl	60		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorophenol	53		%	1	07/16/19	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Nitrobenzene-d5	61		%	1	07/16/19	WB	30 - 130 %
% Phenol-d5	57		%	1	07/16/19	WB	30 - 130 %
% Terphenyl-d14	64		%	1	07/16/19	WB	30 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix:	SOIL	Collected by:	07/11/19	14:00
Location Code:	TRC-DOT	Received by:	SW	07/11/19
Rush Request:	72 Hour	Analyzed by:	see "By" below	
P.O.#:				

### Custody Information

Date

Time

SDG ID: GCD55026

Phoenix ID: CD55040

### Laboratory Data

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-SB108 (2-4)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.35	0.35	mg/Kg	1	07/12/19	TH	SW6010D
Arsenic	6.69	0.70	mg/Kg	1	07/12/19	TH	SW6010D
Barium	27.6	0.35	mg/Kg	1	07/12/19	TH	SW6010D
Cadmium	< 0.35	0.35	mg/Kg	1	07/12/19	TH	SW6010D
Chromium	25.8	0.35	mg/Kg	1	07/12/19	TH	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	07/12/19	RS	SW7471B
Lead	4.19	0.35	mg/Kg	1	07/12/19	TH	SW6010D
Selenium	< 1.4	1.4	mg/Kg	1	07/12/19	EK	SW6010D
Percent Solid	95		%		07/11/19	ML	SW846-%Solid
Soil Extraction for SVOA	Completed				07/15/19	NT/LV	SW3545A
Extraction of CT ETPH	Completed				07/11/19	Q/G/L	SW3545A
Mercury Digestion	Completed				07/12/19	LS/LS	SW7471B
Total Metals Digest	Completed				07/11/19	S/AG/BF	SW3050B

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	52	mg/Kg	1	07/13/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	07/13/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	117	%	1	07/13/19	JRB	50 - 150 %
-----------------	-----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0026	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.022	mg/Kg	1	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.022	mg/Kg	1	07/12/19	JLI	SW8260C
Acetone	ND	0.22	mg/Kg	1	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Benzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromoform	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Bromomethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroform	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Chloromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.0026	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.026	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.0086	mg/Kg	1	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.0086	mg/Kg	1	07/12/19	JLI	SW8260C
Naphthalene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
o-Xylene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
p-Isopropyltoluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Styrene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.0086	mg/Kg	1	07/12/19	JLI	SW8260C
Toluene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.0086	mg/Kg	1	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.0086	mg/Kg	1	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.0043	mg/Kg	1	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	97		%	1	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane	101		%	1	07/12/19	JLI	70 - 130 %
% Toluene-d8	99		%	1	07/12/19	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	07/16/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
1,3-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,4-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2-Chloronaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Chlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylnaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
3-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloroaniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acetophenone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Aniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benz(a)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(a)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzoic acid	ND	0.68	mg/Kg	1	07/16/19	WB	SW8270D
Benzyl butyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Carbazole	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Chrysene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenzofuran	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Diethyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dimethylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-butylphthalate	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-octylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluorene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobutadiene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorocyclopentadiene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachloroethane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Isophorone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Naphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Pentachloronitrobenzene	ND	0.14	mg/Kg	1	07/16/19	WB	SW8270D
Pentachlorophenol	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Phenanthrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Phenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyridine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	77		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorobiphenyl	69		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorophenol	60		%	1	07/16/19	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Nitrobenzene-d5	62		%	1	07/16/19	WB	30 - 130 %
% Phenol-d5	64		%	1	07/16/19	WB	30 - 130 %
% Terphenyl-d14	74		%	1	07/16/19	WB	30 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix: SOIL  
Location Code: TRC-DOT  
Rush Request: 72 Hour  
P.O. #:

### Custody Information

Collected by:  
Received by: SW  
Analyzed by: see "By" below

Date

Time

SDG ID: GCD55026  
Phoenix ID: CD55041

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: PMF-SB104B (12-14)

### Laboratory Data

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.31	0.31	mg/Kg	1	07/12/19	TH	SW6010D
Arsenic	6.06	0.61	mg/Kg	1	07/12/19	TH	SW6010D
Barium	22.6	0.31	mg/Kg	1	07/12/19	TH	SW6010D
Cadmium	< 0.31	0.31	mg/Kg	1	07/12/19	TH	SW6010D
Chromium	16.2	0.31	mg/Kg	1	07/12/19	TH	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	07/12/19	RS	SW7471B
Lead	3.35	0.31	mg/Kg	1	07/12/19	TH	SW6010D
Selenium	< 1.2	1.2	mg/Kg	1	07/12/19	TH	SW6010D
Percent Solid	96		%		07/11/19	ML	SW846-%Solid
Soil Extraction for SVOA	Completed				07/15/19	NT/LV	SW3545A
Extraction of CT ETPH	Completed				07/11/19	Q/G/L	SW3545A
Mercury Digestion	Completed				07/12/19	LS/LS	SW7471B
Total Metals Digest	Completed				07/11/19	S/AG/BF	SW3050B

### TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	52	mg/Kg	1	07/13/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	07/13/19	JRB	CTETPH 8015D

### QA/QC Surrogates

% n-Pentacosane	81	%	1	07/13/19	JRB	50 - 150 %
-----------------	----	---	---	----------	-----	------------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.003	mg/Kg	1	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichlorobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.025	mg/Kg	1	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.025	mg/Kg	1	07/12/19	JLI	SW8260C
Acetone	ND	0.25	mg/Kg	1	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Benzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Bromoform	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Bromomethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Chloroform	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Chloromethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.003	mg/Kg	1	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.03	mg/Kg	1	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Naphthalene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
o-Xylene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
p-Isopropyltoluene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Styrene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Toluene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.01	mg/Kg	1	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.005	mg/Kg	1	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	97		%	1	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene	98		%	1	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane	99		%	1	07/12/19	JLI	70 - 130 %
% Toluene-d8	99		%	1	07/12/19	JLI	70 - 130 %
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	07/16/19	WB	SW8270D
1,2,4-Trichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
1,3-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
1,4-Dichlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dichlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dimethylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
2-Chloronaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Chlorophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylnaphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
2-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
3-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D
4-Bromophenyl phenyl ether	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Chloroaniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
4-Nitroaniline	ND	0.3	mg/Kg	1	07/16/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Nitrophenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acenaphthylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Acetophenone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Aniline	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benz(a)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzidine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(a)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(b)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzo(k)fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Benzoic acid	ND	0.68	mg/Kg	1	07/16/19	WB	SW8270D
Benzyl butyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Carbazole	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Chrysene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dibenzofuran	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Diethyl phthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Dimethylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-butylphthalate	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Di-n-octylphthalate	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluoranthene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Fluorene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobenzene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorobutadiene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Hexachlorocyclopentadiene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Hexachloroethane	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Isophorone	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Naphthalene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
Pentachloronitrobenzene	ND	0.14	mg/Kg	1	07/16/19	WB	SW8270D
Pentachlorophenol	ND	0.34	mg/Kg	1	07/16/19	WB	SW8270D
Phenanthrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Phenol	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyrene	ND	0.24	mg/Kg	1	07/16/19	WB	SW8270D
Pyridine	ND	0.2	mg/Kg	1	07/16/19	WB	SW8270D
<b><u>QA/QC Surrogates</u></b>							
% 2,4,6-Tribromophenol	67		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorobiphenyl	64		%	1	07/16/19	WB	30 - 130 %
% 2-Fluorophenol	57		%	1	07/16/19	WB	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Nitrobenzene-d5	59		%	1	07/16/19	WB	30 - 130 %
% Phenol-d5	60		%	1	07/16/19	WB	30 - 130 %
% Terphenyl-d14	65		%	1	07/16/19	WB	30 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

July 19, 2019

FOR: Attn: Liam Bane  
TRC Environmental Corp.  
21 Griffin Rd North  
Windsor, CT 06095

### Sample Information

Matrix: SOIL  
Location Code: TRC-DOT  
Rush Request: 72 Hour  
P.O. #:

### Custody Information

Collected by:  
Received by: SW  
Analyzed by: see "By" below

Date

Time

07/11/19 8:00  
07/11/19 16:38

SDG ID: GCD55026

Phoenix ID: CD55042

Project ID: CONN DOT PUTNAM MAINTENANCE FACILITY  
Client ID: SB07112019 HL

### Laboratory Data

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
-----------	--------	------------	-------	----------	-----------	----	-----------

### Volatiles

1,1,1,2-Tetrachloroethane	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
1,1-Dichloroethane	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
1,1-Dichloroethene	ND	0.14	mg/Kg	50	07/12/19	JLI	SW8260C
1,1-Dichloropropene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
1,2-Dibromoethane	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
1,2-Dichloroethane	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
1,2-Dichloropropane	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
1,3-Dichloropropane	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
2,2-Dichloropropane	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
2-Chlorotoluene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
2-Hexanone	ND	0.7	mg/Kg	50	07/12/19	JLI	SW8260C
2-Isopropyltoluene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
4-Chlorotoluene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
4-Methyl-2-pentanone	ND	1.3	mg/Kg	50	07/12/19	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	5	mg/Kg	50	07/12/19	JLI	SW8260C
Acrylonitrile	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
Benzene	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
Bromobenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Bromoform	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Bromochloromethane	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
Bromodichloromethane	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
Bromoform	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
Bromomethane	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
Carbon Disulfide	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Carbon tetrachloride	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
Chlorobenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Chloroethane	ND	0.15	mg/Kg	50	07/12/19	JLI	SW8260C
Chloroform	ND	0.12	mg/Kg	50	07/12/19	JLI	SW8260C
Chloromethane	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
Dibromochloromethane	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
Dibromomethane	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Dichlorodifluoromethane	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Ethylbenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Hexachlorobutadiene	ND	0.2	mg/Kg	50	07/12/19	JLI	SW8260C
Isopropylbenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
m&p-Xylene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Methyl Ethyl Ketone	ND	3	mg/Kg	50	07/12/19	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Methylene chloride	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
Naphthalene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
n-Butylbenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
n-Propylbenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
o-Xylene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
p-Isopropyltoluene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
sec-Butylbenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Styrene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
tert-Butylbenzene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Tetrachloroethene	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Toluene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Total Xylenes	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.5	mg/Kg	50	07/12/19	JLI	SW8260C
Trichloroethene	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
Trichlorofluoromethane	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.25	mg/Kg	50	07/12/19	JLI	SW8260C
Vinyl chloride	ND	0.1	mg/Kg	50	07/12/19	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4 (50x)	98		%	50	07/12/19	JLI	70 - 130 %
% Bromofluorobenzene (50x)	102		%	50	07/12/19	JLI	70 - 130 %
% Dibromofluoromethane (50x)	99		%	50	07/12/19	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8 (50x)	99		%	50	07/12/19	JLI	70 - 130 %
Field Extraction	Completed				07/11/19		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

TRIP BLANK INCLUDED.

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 19, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

### QA/QC Report

July 19, 2019

#### QA/QC Data

SDG I.D.: GCD55026

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 487341 (mg/kg), QC Sample No: CD54286 2X (CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041)													
Mercury - Soil	BRL	0.03	<0.03	<0.03	NC	95.7	94.5	1.3	97.7	101	3.3	70 - 130	30
Comment: Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.													
QA/QC Batch 487214 (mg/L), QC Sample No: CD54430 (CD55028, CD55029)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	98.7			94.8			80 - 120	20
Comment: Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.													
QA/QC Batch 487340 (mg/kg), QC Sample No: CD54480 2X (CD55026, CD55027, CD55032)													
Mercury - Soil	BRL	0.03	<0.03	<0.03	NC	91.9	95.2	3.5	93.8	101	7.4	70 - 130	30
Comment: Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.													
QA/QC Batch 487347 (mg/L), QC Sample No: CD54659 (CD55033)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	89.5			91.3			80 - 120	20
Comment: Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.													
QA/QC Batch 487295 (mg/kg), QC Sample No: CD55026 (CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041)													
<b>ICP Metals - Soil</b>													
Arsenic	BRL	0.67	5.55	6.73	19.2	87.7	90.4	3.0	90.7			75 - 125	30
Barium	BRL	0.33	46.5	34.3	30.2	87.4	90.7	3.7	95.3			75 - 125	30
Cadmium	BRL	0.33	<0.31	<0.36	NC	88.2	89.6	1.6	93.8			75 - 125	30
Chromium	BRL	0.33	19.3	23.1	17.9	86.9	89.8	3.3	93.4			75 - 125	30
Lead	BRL	0.33	3.88	3.07	23.3	86.8	90.0	3.6	94.8			75 - 125	30
Selenium	BRL	1.3	<1.2	<1.4	NC	76.9	79.0	2.7	82.1			75 - 125	30
Silver	BRL	0.33	<0.31	<0.36	NC	84.9	86.1	1.4	95.7			75 - 125	30
QA/QC Batch 487282 (mg/L), QC Sample No: CD55344 (CD55028, CD55029, CD55033)													
<b>ICP Metals - Aqueous</b>													
Arsenic	BRL	0.004	<0.004	<0.004	NC	99.5	103	3.5	103			75 - 125	20
Barium	BRL	0.002	0.055	0.057	3.60	103	105	1.9	104			75 - 125	20
Cadmium	BRL	0.001	<0.001	<0.001	NC	102	106	3.8	100			75 - 125	20
Chromium	BRL	0.001	<0.001	<0.001	NC	99.9	105	5.0	101			75 - 125	20
Lead	BRL	0.002	<0.002	<0.002	NC	103	106	2.9	103			75 - 125	20
Selenium	BRL	0.010	<0.010	<0.010	NC	96.5	100	3.6	99.1			75 - 125	20
Silver	BRL	0.001	<0.001	<0.001	NC	98.9	102	3.1	102			75 - 125	20



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

### QA/QC Report

July 19, 2019

#### QA/QC Data

SDG I.D.: GCD55026

Parameter	Blank	Blk	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
-----------	-------	-----	-------	--------	---------	------	-------	--------	--------------	--------------

QA/QC Batch 487299 (mg/L), QC Sample No: CD54465 (CD55028, CD55029, CD55033)

#### TPH by GC (Extractable Products) - Ground Water

Ext. Petroleum H.C. (C9-C36)	ND	0.10	106	100	5.8			60 - 120	30
% n-Pentacosane	58	%	78	75	3.9			50 - 150	20

Comment:

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

QA/QC Batch 487285 (mg/Kg), QC Sample No: CD55036 (CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55039, CD55040, CD55041)

#### TPH by GC (Extractable Products) - Soil

Ext. Petroleum H.C. (C9-C36)	ND	50	62	67	57	16.1	60 - 120	30
% n-Pentacosane	67	%	81	87	74	16.1	50 - 150	30

Comment:

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

QA/QC Batch 487436 (mg/Kg), QC Sample No: CD55627 (CD55038)

#### TPH by GC (Extractable Products) - Soil

Ext. Petroleum H.C. (C9-C36)	ND	50	61	80	60	28.6	60 - 120	30	s
% n-Pentacosane	46	%	66	84	70	18.2	50 - 150	30	

Comment:

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

QA/QC Batch 487283 (mg/Kg), QC Sample No: CD54359 (CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55041)

#### Polynuclear Aromatic HC - Soil

2-Methylnaphthalene	ND	0.23	68	75	9.8	81	74	9.0	30 - 130	30
Acenaphthene	ND	0.23	70	79	12.1	79	73	7.9	30 - 130	30
Acenaphthylene	ND	0.23	65	73	11.6	73	69	5.6	30 - 130	30
Anthracene	ND	0.23	74	84	12.7	84	81	3.6	30 - 130	30
Benz(a)anthracene	ND	0.23	72	82	13.0	82	79	3.7	30 - 130	30
Benzo(a)pyrene	ND	0.23	70	77	9.5	79	76	3.9	30 - 130	30
Benzo(b)fluoranthene	ND	0.23	77	81	5.1	81	82	1.2	30 - 130	30
Benzo(ghi)perylene	ND	0.23	75	80	6.5	84	81	3.6	30 - 130	30
Benzo(k)fluoranthene	ND	0.23	71	80	11.9	82	75	8.9	30 - 130	30
Chrysene	ND	0.23	72	83	14.2	82	80	2.5	30 - 130	30
Dibenz(a,h)anthracene	ND	0.23	84	88	4.7	88	88	0.0	30 - 130	30
Fluoranthene	ND	0.23	77	84	8.7	84	82	2.4	30 - 130	30
Fluorene	ND	0.23	70	79	12.1	76	74	2.7	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	0.23	79	84	6.1	87	84	3.5	30 - 130	30
Naphthalene	ND	0.23	67	73	8.6	80	75	6.5	30 - 130	30
Phenanthrene	ND	0.23	74	82	10.3	82	78	5.0	30 - 130	30
Pyrene	ND	0.23	79	86	8.5	85	83	2.4	30 - 130	30

QA/QC Data

SDG I.D.: GCD55026

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
% 2-Fluorobiphenyl	57	%	58	65	11.4	67	63	6.2	30 - 130	30
% Nitrobenzene-d5	55	%	57	63	10.0	72	67	7.2	30 - 130	30
% Terphenyl-d14	60	%	68	77	12.4	77	75	2.6	30 - 130	30
Comment:										
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)										
QA/QC Batch 487713 (ug/L), QC Sample No: CD55028 (CD55028, CD55029, CD55033)										
<u>Semivolatiles - Ground Water</u>										
1,2,4,5-Tetrachlorobenzene	ND	3.5		60	70	15.4			30 - 130	20
1,2,4-Trichlorobenzene	ND	3.5		58	68	15.9			30 - 130	20
1,2-Dichlorobenzene	ND	1.0		45	61	30.2			30 - 130	20
1,2-Diphenylhydrazine	ND	1.6		86	87	1.2			30 - 130	20
1,3-Dichlorobenzene	ND	1.0		45	60	28.6			30 - 130	20
1,4-Dichlorobenzene	ND	1.0		46	61	28.0			30 - 130	20
2,4,5-Trichlorophenol	ND	1.0		85	87	2.3			30 - 130	20
2,4,6-Trichlorophenol	ND	1.0		82	88	7.1			30 - 130	20
2,4-Dichlorophenol	ND	1.0		68	79	15.0			30 - 130	20
2,4-Dimethylphenol	ND	1.0		74	82	10.3			30 - 130	20
2,4-Dinitrophenol	ND	1.0		94	108	13.9			30 - 130	20
2,4-Dinitrotoluene	ND	3.5		93	94	1.1			30 - 130	20
2,6-Dinitrotoluene	ND	3.5		95	98	3.1			30 - 130	20
2-Chloronaphthalene	ND	3.5		68	73	7.1			30 - 130	20
2-Chlorophenol	ND	1.0		51	66	25.6			30 - 130	20
2-Methylphenol (o-cresol)	ND	1.0		54	68	23.0			30 - 130	20
2-Nitroaniline	ND	3.5		127	122	4.0			30 - 130	20
2-Nitrophenol	ND	1.0		77	91	16.7			30 - 130	20
3&4-Methylphenol (m&p-cresol)	ND	1.0		58	74	24.2			30 - 130	20
3,3'-Dichlorobenzidine	ND	5.0		80	69	14.8			30 - 130	20
3-Nitroaniline	ND	5.0		107	106	0.9			30 - 130	20
4,6-Dinitro-2-methylphenol	ND	1.0		103	109	5.7			30 - 130	20
4-Bromophenyl phenyl ether	ND	3.5		80	80	0.0			30 - 130	20
4-Chloro-3-methylphenol	ND	1.0		82	90	9.3			30 - 130	20
4-Chloroaniline	ND	3.5		71	54	27.2			30 - 130	20
4-Chlorophenyl phenyl ether	ND	1.0		77	79	2.6			30 - 130	20
4-Nitroaniline	ND	5.0		93	98	5.2			30 - 130	20
4-Nitrophenol	ND	1.0		103	110	6.6			15 - 130	20
Acetophenone	ND	3.5		53	69	26.2			30 - 130	20
Aniline	ND	3.5		46	<10	NC			30 - 130	20
Benzidine	ND	4.5		98	<10	NC			30 - 130	20
Benzoic acid	ND	10		49	73	39.3			30 - 130	20
Benzyl butyl phthalate	ND	1.5		99	98	1.0			30 - 130	20
Bis(2-chloroethoxy)methane	ND	3.5		60	68	12.5			30 - 130	20
Bis(2-chloroethyl)ether	ND	1.0		46	60	26.4			30 - 130	20
Bis(2-chloroisopropyl)ether	ND	1.0		43	57	28.0			30 - 130	20
Bis(2-ethylhexyl)phthalate	ND	1.5		102	104	1.9			30 - 130	20
Carbazole	ND	5.0		88	85	3.5			30 - 130	20
Dibenzofuran	ND	3.5		73	76	4.0			30 - 130	20
Diethyl phthalate	ND	1.5		90	90	0.0			30 - 130	20
Dimethylphthalate	ND	1.5		81	83	2.4			30 - 130	20
Di-n-butylphthalate	ND	1.5		93	92	1.1			30 - 130	20
Di-n-octylphthalate	ND	1.5		95	96	1.0			30 - 130	20
Hexachloroethane	ND	3.5		47	64	30.6			30 - 130	20

QA/QC Data

SDG I.D.: GCD55026

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Isophorone	ND	3.5	63	73	14.7				30 - 130	20
N-Nitrosodimethylamine	ND	1.0	43	58	29.7				30 - 130	20
N-Nitrosodi-n-propylamine	ND	3.5	61	76	21.9				30 - 130	20
N-Nitrosodiphenylamine	ND	3.5	74	74	0.0				30 - 130	20
Pentachloronitrobenzene	ND	5.0	88	88	0.0				30 - 130	20
Phenol	ND	1.0	48	62	25.5				15 - 130	20
% 2,4,6-Tribromophenol	102	%	96	96	0.0				15 - 110	20
% 2-Fluorobiphenyl	76	%	66	71	7.3				30 - 130	20
% 2-Fluorophenol	64	%	38	50	27.3				15 - 110	20
% Nitrobenzene-d5	70	%	52	70	29.5				30 - 130	20
% Phenol-d5	64	%	44	56	24.0				15 - 110	20
% Terphenyl-d14	78	%	82	80	2.5				30 - 130	20
Comment:										
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)										
QA/QC Batch 487677 (mg/Kg), QC Sample No: CD55036 (CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041)										
<b>Semivolatiles - Soil</b>										
1,2,4,5-Tetrachlorobenzene	ND	0.23	58	56	3.5	62	54	13.8	30 - 130	30
1,2,4-Trichlorobenzene	ND	0.23	58	56	3.5	59	50	16.5	30 - 130	30
1,2-Dichlorobenzene	ND	0.18	53	50	5.8	49	40	20.2	30 - 130	30
1,2-Diphenylhydrazine	ND	0.23	70	64	9.0	66	67	1.5	30 - 130	30
1,3-Dichlorobenzene	ND	0.23	50	48	4.1	47	37	23.8	30 - 130	30
1,4-Dichlorobenzene	ND	0.23	52	49	5.9	48	38	23.3	30 - 130	30
2,4,5-Trichlorophenol	ND	0.23	76	74	2.7	83	81	2.4	30 - 130	30
2,4,6-Trichlorophenol	ND	0.13	77	75	2.6	83	82	1.2	30 - 130	30
2,4-Dichlorophenol	ND	0.13	71	70	1.4	75	69	8.3	30 - 130	30
2,4-Dimethylphenol	ND	0.23	78	73	6.6	72	67	7.2	30 - 130	30
2,4-Dinitrophenol	ND	0.23	56	79	34.1	61	46	28.0	30 - 130	30
2,4-Dinitrotoluene	ND	0.13	72	81	11.8	97	92	5.3	30 - 130	30
2,6-Dinitrotoluene	ND	0.13	69	79	13.5	92	90	2.2	30 - 130	30
2-Chloronaphthalene	ND	0.23	62	57	8.4	62	59	5.0	30 - 130	30
2-Chlorophenol	ND	0.23	67	61	9.4	61	53	14.0	30 - 130	30
2-Methylnaphthalene	ND	0.23	61	57	6.8	61	53	14.0	30 - 130	30
2-Methylphenol (o-cresol)	ND	0.23	69	62	10.7	61	53	14.0	30 - 130	30
2-Nitroaniline	ND	0.33	64	67	4.6	87	90	3.4	30 - 130	30
2-Nitrophenol	ND	0.23	77	88	13.3	94	84	11.2	30 - 130	30
3&4-Methylphenol (m&p-cresol)	ND	0.23	73	67	8.6	67	60	11.0	30 - 130	30
3,3'-Dichlorobenzidine	ND	0.13	15	20	28.6	84	86	2.4	30 - 130	30
3-Nitroaniline	ND	0.33	58	73	22.9	97	95	2.1	30 - 130	30
4,6-Dinitro-2-methylphenol	ND	0.23	62	83	29.0	79	68	15.0	30 - 130	30
4-Bromophenyl phenyl ether	ND	0.23	66	63	4.7	71	70	1.4	30 - 130	30
4-Chloro-3-methylphenol	ND	0.23	77	75	2.6	77	74	4.0	30 - 130	30
4-Chloroaniline	ND	0.23	51	53	3.8	65	63	3.1	30 - 130	30
4-Chlorophenyl phenyl ether	ND	0.23	64	60	6.5	68	66	3.0	30 - 130	30
4-Nitroaniline	ND	0.23	73	79	7.9	84	84	0.0	30 - 130	30
4-Nitrophenol	ND	0.23	73	80	9.2	84	85	1.2	30 - 130	30
Acenaphthene	ND	0.23	66	60	9.5	65	64	1.6	30 - 130	30
Acenaphthylene	ND	0.13	65	59	9.7	65	63	3.1	30 - 130	30
Acetophenone	ND	0.23	61	55	10.3	53	45	16.3	30 - 130	30
Aniline	ND	0.33	67	33	68.0	50	43	15.1	30 - 130	30
Anthracene	ND	0.23	67	63	6.2	71	70	1.4	30 - 130	30

## QA/QC Data

SDG I.D.: GCD55026

Parameter	Blank	Blk	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec	% RPD
		RL							Limits	Limits
Benz(a)anthracene	ND	0.23	65	62	4.7	71	71	0.0	30 - 130	30
Benzidine	ND	0.33	<10	<10	NC	49	56	13.3	30 - 130	30
Benzo(a)pyrene	ND	0.13	67	63	6.2	74	74	0.0	30 - 130	30
Benzo(b)fluoranthene	ND	0.16	66	62	6.3	73	73	0.0	30 - 130	30
Benzo(ghi)perylene	ND	0.23	68	64	6.1	73	74	1.4	30 - 130	30
Benzo(k)fluoranthene	ND	0.23	68	63	7.6	73	73	0.0	30 - 130	30
Benzoic Acid	ND	0.33	22	69	103.3	52	44	16.7	30 - 130	30
Benzyl butyl phthalate	ND	0.23	74	70	5.6	77	78	1.3	30 - 130	30
Bis(2-chloroethoxy)methane	ND	0.23	60	56	6.9	58	52	10.9	30 - 130	30
Bis(2-chloroethyl)ether	ND	0.13	95	53	56.8	44	37	17.3	30 - 130	30
Bis(2-chloroisopropyl)ether	ND	0.23	50	48	4.1	45	39	14.3	30 - 130	30
Bis(2-ethylhexyl)phthalate	ND	0.23	72	69	4.3	75	76	1.3	30 - 130	30
Carbazole	ND	0.23	66	63	4.7	69	69	0.0	30 - 130	30
Chrysene	ND	0.23	64	60	6.5	68	68	0.0	30 - 130	30
Dibenz(a,h)anthracene	ND	0.13	77	72	6.7	81	82	1.2	30 - 130	30
Dibenzofuran	ND	0.23	64	60	6.5	66	64	3.1	30 - 130	30
Diethyl phthalate	ND	0.23	69	63	9.1	70	70	0.0	30 - 130	30
Dimethylphthalate	ND	0.23	65	60	8.0	68	67	1.5	30 - 130	30
Di-n-butylphthalate	ND	0.67	73	69	5.6	74	75	1.3	30 - 130	30
Di-n-octylphthalate	ND	0.23	72	69	4.3	73	73	0.0	30 - 130	30
Fluoranthene	ND	0.23	68	64	6.1	70	70	0.0	30 - 130	30
Fluorene	ND	0.23	67	63	6.2	70	68	2.9	30 - 130	30
Hexachlorobenzene	ND	0.13	66	60	9.5	66	67	1.5	30 - 130	30
Hexachlorobutadiene	ND	0.23	54	53	1.9	57	48	17.1	30 - 130	30
Hexachlorocyclopentadiene	ND	0.23	29	26	10.9	32	28	13.3	30 - 130	30
Hexachloroethane	ND	0.13	47	43	8.9	44	35	22.8	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	0.23	79	72	9.3	83	84	1.2	30 - 130	30
Isophorone	ND	0.13	59	55	7.0	56	52	7.4	30 - 130	30
Naphthalene	ND	0.23	59	55	7.0	57	49	15.1	30 - 130	30
Nitrobenzene	ND	0.13	70	70	0.0	70	60	15.4	30 - 130	30
N-Nitrosodimethylamine	ND	0.23	52	45	14.4	42	34	21.1	30 - 130	30
N-Nitrosodi-n-propylamine	ND	0.13	65	58	11.4	58	52	10.9	30 - 130	30
N-Nitrosodiphenylamine	ND	0.13	64	62	3.2	70	68	2.9	30 - 130	30
Pentachloronitrobenzene	ND	0.23	66	66	0.0	73	71	2.8	30 - 130	30
Pentachlorophenol	ND	0.23	76	79	3.9	93	91	2.2	30 - 130	30
Phenanthrene	ND	0.13	65	61	6.3	68	68	0.0	30 - 130	30
Phenol	ND	0.23	71	64	10.4	64	55	15.1	30 - 130	30
Pyrene	ND	0.23	69	65	6.0	71	71	0.0	30 - 130	30
Pyridine	ND	0.23	<10	33	NC	29	22	27.5	30 - 130	30
% 2,4,6-Tribromophenol	37	%	80	75	6.5	73	79	7.9	30 - 130	30
% 2-Fluorobiphenyl	50	%	60	54	10.5	59	58	1.7	30 - 130	30
% 2-Fluorophenol	48	%	64	56	13.3	54	47	13.9	30 - 130	30
% Nitrobenzene-d5	45	%	65	69	6.0	69	59	15.6	30 - 130	30
% Phenol-d5	51	%	67	59	12.7	60	53	12.4	30 - 130	30
% Terphenyl-d14	56	%			6.7	65	64	1.6	30 - 130	30

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 487713 (ug/L), QC Sample No: CD55028 (CD55028, CD55029, CD55033)

### Semivolatiles (SIM) - Ground Water

2-Methylnaphthalene	ND	0.50	63	65	3.1			30 - 130	20
Acenaphthene	ND	0.50	76	77	1.3			30 - 130	20

QA/QC Data

SDG I.D.: GCD55026

Parameter	Blank	Blk	RL	LCS	LCSD	LCS	MS	MSD	MS	%	%
				%	%	RPD	%	RPD	Rec	RPD	
Acenaphthylene	ND	0.50		75	70	6.9			30 - 130	20	
Anthracene	ND	0.50		89	81	9.4			30 - 130	20	
Benz(a)anthracene	ND	0.50		92	82	11.5			30 - 130	20	
Benzo(a)pyrene	ND	0.50		91	80	12.9			30 - 130	20	
Benzo(b)fluoranthene	ND	0.50		101	89	12.6			30 - 130	20	
Benzo(ghi)perylene	ND	0.50		85	80	6.1			30 - 130	20	
Benzo(k)fluoranthene	ND	0.50		108	99	8.7			30 - 130	20	
Chrysene	ND	0.50		93	85	9.0			30 - 130	20	
Dibenz(a,h)anthracene	ND	0.50		100	94	6.2			30 - 130	20	
Fluoranthene	ND	0.50		89	80	10.7			30 - 130	20	
Fluorene	ND	0.50		82	77	6.3			30 - 130	20	
Hexachlorobenzene	ND	0.50		85	78	8.6			30 - 130	20	
Hexachlorobutadiene	ND	0.50		55	62	12.0			30 - 130	20	
Hexachlorocyclopentadiene	ND	0.50		30	32	6.5			30 - 130	20	
Indeno(1,2,3-cd)pyrene	ND	0.50		91	84	8.0			30 - 130	20	
Naphthalene	ND	0.50		59	63	6.6			30 - 130	20	
Nitrobenzene	ND	0.50		65	70	7.4			30 - 130	20	
Pentachlorophenol	ND	0.50		98	86	13.0			30 - 130	20	
Phenanthrene	ND	0.50		83	75	10.1			30 - 130	20	
Pyrene	ND	0.50		93	82	12.6			30 - 130	20	
Pyridine	ND	0.50		36	20	57.1			30 - 130	20	
% 2,4,6-Tribromophenol	78	%		92	82	11.5			15 - 110	20	
% 2-Fluorobiphenyl	77	%		66	65	1.5			30 - 130	20	
% 2-Fluorophenol	68	%		37	48	25.9			15 - 110	20	
% Nitrobenzene-d5	66	%		53	57	7.3			30 - 130	20	
% Phenol-d5	70	%		49	53	7.8			15 - 110	20	
% Terphenyl-d14	76	%		77	70	9.5			30 - 130	20	

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 487417 (mg/Kg), QC Sample No: CD54316 (CD55026, CD55027, CD55031, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041, CD55042 (50X) )

Volatiles - Soil (Low Level)

1,1,1,2-Tetrachloroethane	ND	0.005		95	97	2.1	88	83	5.8	70 - 130	30
1,1,1-Trichloroethane	ND	0.005		93	97	4.2	101	95	6.1	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.003		101	104	2.9	66	60	9.5	70 - 130	30
1,1,2-Trichloroethane	ND	0.005		97	97	0.0	92	88	4.4	70 - 130	30
1,1-Dichloroethane	ND	0.005		99	101	2.0	104	102	1.9	70 - 130	30
1,1-Dichloroethene	ND	0.005		113	112	0.9	123	119	3.3	70 - 130	30
1,1-Dichloropropene	ND	0.005		95	96	1.0	97	90	7.5	70 - 130	30
1,2,3-Trichlorobenzene	ND	0.005		94	93	1.1	42	38	10.0	70 - 130	30
1,2,3-Trichloropropane	ND	0.005		96	97	1.0	95	90	5.4	70 - 130	30
1,2,4-Trichlorobenzene	ND	0.005		89	90	1.1	45	41	9.3	70 - 130	30
1,2,4-Trimethylbenzene	ND	0.001		92	94	2.2	72	67	7.2	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	0.005		104	106	1.9	90	87	3.4	70 - 130	30
1,2-Dibromoethane	ND	0.005		97	98	1.0	90	87	3.4	70 - 130	30
1,2-Dichlorobenzene	ND	0.005		94	97	3.1	69	65	6.0	70 - 130	30
1,2-Dichloroethane	ND	0.005		100	101	1.0	96	91	5.3	70 - 130	30
1,2-Dichloropropane	ND	0.005		101	101	0.0	100	96	4.1	70 - 130	30
1,3,5-Trimethylbenzene	ND	0.001		93	95	2.1	75	71	5.5	70 - 130	30
1,3-Dichlorobenzene	ND	0.005		92	94	2.2	70	66	5.9	70 - 130	30
1,3-Dichloropropane	ND	0.005		97	98	1.0	92	89	3.3	70 - 130	30

QA/QC Data

SDG I.D.: GCD55026

Parameter	Blank	Blk RL							% Rec	% RPD	
			LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	Limits	Limits	
1,4-Dichlorobenzene	ND	0.005	93	93	0.0	69	65	6.0	70 - 130	30	m
2,2-Dichloropropane	ND	0.005	97	100	3.0	100	94	6.2	70 - 130	30	
2-Chlorotoluene	ND	0.005	94	97	3.1	81	75	7.7	70 - 130	30	
2-Hexanone	ND	0.025	99	96	3.1	72	68	5.7	70 - 130	30	m
2-Isopropyltoluene	ND	0.005	96	99	3.1	73	68	7.1	70 - 130	30	m
4-Chlorotoluene	ND	0.005	92	94	2.2	77	73	5.3	70 - 130	30	
4-Methyl-2-pentanone	ND	0.025	103	101	2.0	89	82	8.2	70 - 130	30	
Acetone	ND	0.01	109	106	2.8	93	83	11.4	70 - 130	30	
Acrylonitrile	ND	0.005	104	101	2.9	104	97	7.0	70 - 130	30	
Benzene	ND	0.001	97	99	2.0	99	93	6.3	70 - 130	30	
Bromobenzene	ND	0.005	95	97	2.1	83	78	6.2	70 - 130	30	
Bromoform	ND	0.005	99	98	0.0	87	82	5.9	70 - 130	30	
Bromomethane	ND	0.005	123	124	0.8	129	127	1.6	70 - 130	30	
Carbon Disulfide	ND	0.005	113	113	0.0	117	112	4.4	70 - 130	30	
Carbon tetrachloride	ND	0.005	95	99	4.1	97	92	5.3	70 - 130	30	
Chlorobenzene	ND	0.005	96	97	1.0	85	82	3.6	70 - 130	30	
Chloroethane	ND	0.005	112	116	3.5	119	117	1.7	70 - 130	30	
Chloroform	ND	0.005	96	98	2.1	100	96	4.1	70 - 130	30	
Chloromethane	ND	0.005	108	109	0.9	116	111	4.4	70 - 130	30	
cis-1,2-Dichloroethene	ND	0.005	99	101	2.0	105	99	5.9	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.005	100	101	1.0	92	87	5.6	70 - 130	30	
Dibromochloromethane	ND	0.003	102	103	1.0	92	90	2.2	70 - 130	30	
Dibromomethane	ND	0.005	99	98	1.0	96	92	4.3	70 - 130	30	
Dichlorodifluoromethane	ND	0.005	104	107	2.8	112	108	3.6	70 - 130	30	
Ethylbenzene	ND	0.001	94	95	1.1	84	80	4.9	70 - 130	30	
Hexachlorobutadiene	ND	0.005	95	97	2.1	46	43	6.7	70 - 130	30	m
Isopropylbenzene	ND	0.001	94	97	3.1	84	79	6.1	70 - 130	30	
m&p-Xylene	ND	0.002	92	93	1.1	80	76	5.1	70 - 130	30	
Methyl ethyl ketone	ND	0.005	109	98	10.6	105	93	12.1	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	0.001	95	95	0.0	97	93	4.2	70 - 130	30	
Methylene chloride	ND	0.005	95	100	5.1	100	95	5.1	70 - 130	30	
Naphthalene	ND	0.005	97	98	1.0	54	48	11.8	70 - 130	30	m
n-Butylbenzene	ND	0.001	94	95	1.1	66	62	6.3	70 - 130	30	m
n-Propylbenzene	ND	0.001	94	97	3.1	81	76	6.4	70 - 130	30	
o-Xylene	ND	0.002	94	95	1.1	82	78	5.0	70 - 130	30	
p-Isopropyltoluene	ND	0.001	93	95	2.1	69	65	6.0	70 - 130	30	m
sec-Butylbenzene	ND	0.001	98	102	4.0	77	72	6.7	70 - 130	30	
Styrene	ND	0.005	91	92	1.1	75	73	2.7	70 - 130	30	
tert-Butylbenzene	ND	0.001	93	97	4.2	77	72	6.7	70 - 130	30	
Tetrachloroethene	ND	0.005	93	96	3.2	86	79	8.5	70 - 130	30	
Tetrahydrofuran (THF)	ND	0.005	97	97	0.0	103	97	6.0	70 - 130	30	
Toluene	ND	0.001	96	98	2.1	93	88	5.5	70 - 130	30	
trans-1,2-Dichloroethene	ND	0.005	101	101	0.0	107	99	7.8	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.005	98	98	0.0	86	83	3.6	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	0.005	101	102	1.0	86	81	6.0	70 - 130	30	
Trichloroethene	ND	0.005	96	98	2.1	118	114	3.4	70 - 130	30	
Trichlorofluoromethane	ND	0.005	100	103	3.0	112	106	5.5	70 - 130	30	
Trichlorotrifluoroethane	ND	0.005	112	112	0.0	119	112	6.1	70 - 130	30	
Vinyl chloride	ND	0.005	113	116	2.6	130	123	5.5	70 - 130	30	
% 1,2-dichlorobenzene-d4	97	%	99	101	2.0	101	102	1.0	70 - 130	30	
% Bromofluorobenzene	100	%	99	98	1.0	96	98	2.1	70 - 130	30	

QA/QC Data

SDG I.D.: GCD55026

Parameter	Blank	Blk RL	LCS	LCSD	LCS	MS	MSD	MS	%	%
			%	%	RPD	%	%	RPD	Rec Limits	RPD Limits
% Dibromofluoromethane	99	%	98	97	1.0	102	100	2.0	70 - 130	30
% Toluene-d8	99	%	102	102	0.0	101	102	1.0	70 - 130	30
Comment:										
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.										
QA/QC Batch 487650 (ug/L), QC Sample No: CD55030 (CD55028, CD55029, CD55030)										
<u>Volatiles - Ground Water</u>										
1,1,1,2-Tetrachloroethane	ND	1.0	100	102	2.0				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	93	90	3.3				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	103	105	1.9				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	98	95	3.1				70 - 130	30
1,1-Dichloroethane	ND	1.0	98	95	3.1				70 - 130	30
1,1-Dichloroethene	ND	1.0	95	92	3.2				70 - 130	30
1,1-Dichloropropene	ND	1.0	90	85	5.7				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	116	112	3.5				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	99	105	5.9				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	107	104	2.8				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	97	95	2.1				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	106	100	5.8				70 - 130	30
1,2-Dibromoethane	ND	1.0	96	99	3.1				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	103	97	6.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	110	105	4.7				70 - 130	30
1,2-Dichloropropane	ND	1.0	103	100	3.0				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	97	92	5.3				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	103	99	4.0				70 - 130	30
1,3-Dichloropropane	ND	1.0	97	97	0.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	101	98	3.0				70 - 130	30
2,2-Dichloropropane	ND	1.0	96	95	1.0				70 - 130	30
2-Chlorotoluene	ND	1.0	99	96	3.1				70 - 130	30
2-Hexanone	ND	5.0	102	100	2.0				70 - 130	30
2-Isopropyltoluene	ND	1.0	100	96	4.1				70 - 130	30
4-Chlorotoluene	ND	1.0	98	95	3.1				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	102	101	1.0				70 - 130	30
Acetone	ND	5.0	106	85	22.0				70 - 130	30
Acrylonitrile	ND	5.0	97	98	1.0				70 - 130	30
Benzene	ND	0.70	95	92	3.2				70 - 130	30
Bromobenzene	ND	1.0	102	99	3.0				70 - 130	30
Bromochloromethane	ND	1.0	94	96	2.1				70 - 130	30
Bromodichloromethane	ND	0.50	100	98	2.0				70 - 130	30
Bromoform	ND	1.0	100	98	2.0				70 - 130	30
Bromomethane	ND	1.0	117	114	2.6				70 - 130	30
Carbon Disulfide	ND	1.0	97	95	2.1				70 - 130	30
Carbon tetrachloride	ND	1.0	90	87	3.4				70 - 130	30
Chlorobenzene	ND	1.0	96	96	0.0				70 - 130	30
Chloroethane	ND	1.0	102	100	2.0				70 - 130	30
Chloroform	ND	1.0	98	97	1.0				70 - 130	30
Chloromethane	ND	1.0	104	99	4.9				70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	101	99	2.0				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	102	99	3.0				70 - 130	30
Dibromochloromethane	ND	0.50	107	106	0.9				70 - 130	30
Dibromomethane	ND	1.0	102	97	5.0				70 - 130	30
Dichlorodifluoromethane	ND	1.0	96	91	5.3				70 - 130	30

QA/QC Data

SDG I.D.: GCD55026

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Ethylbenzene	ND	1.0	94	93	1.1				70 - 130	30
Hexachlorobutadiene	ND	0.40	103	102	1.0				70 - 130	30
Isopropylbenzene	ND	1.0	93	90	3.3				70 - 130	30
m&p-Xylene	ND	1.0	92	91	1.1				70 - 130	30
Methyl ethyl ketone	ND	5.0	101	102	1.0				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	98	95	3.1				70 - 130	30
Methylene chloride	ND	1.0	93	91	2.2				70 - 130	30
Naphthalene	ND	1.0	115	110	4.4				70 - 130	30
n-Butylbenzene	ND	1.0	96	93	3.2				70 - 130	30
n-Propylbenzene	ND	1.0	94	92	2.2				70 - 130	30
o-Xylene	ND	1.0	96	96	0.0				70 - 130	30
p-Isopropyltoluene	ND	1.0	95	93	2.1				70 - 130	30
sec-Butylbenzene	ND	1.0	96	95	1.0				70 - 130	30
Styrene	ND	1.0	96	96	0.0				70 - 130	30
tert-Butylbenzene	ND	1.0	93	91	2.2				70 - 130	30
Tetrachloroethene	ND	1.0	93	89	4.4				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	89	92	3.3				70 - 130	30
Toluene	ND	1.0	99	94	5.2				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	96	95	1.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	102	98	4.0				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	117	109	7.1				70 - 130	30
Trichloroethene	ND	1.0	94	90	4.3				70 - 130	30
Trichlorofluoromethane	ND	1.0	86	83	3.6				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	93	88	5.5				70 - 130	30
Vinyl chloride	ND	1.0	103	101	2.0				70 - 130	30
% 1,2-dichlorobenzene-d4	95	%	103	102	1.0				70 - 130	30
% Bromofluorobenzene	99	%	98	100	2.0				70 - 130	30
% Dibromofluoromethane	98	%	99	103	4.0				70 - 130	30
% Toluene-d8	91	%	102	100	2.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

QA/QC Batch 487665 (ug/L), QC Sample No: CD55557 (CD55033)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	98	97	1.0				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	96	95	1.0				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	94	93	1.1				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	84	88	4.7				70 - 130	30
1,1-Dichloroethane	ND	1.0	95	96	1.0				70 - 130	30
1,1-Dichloroethene	ND	1.0	97	96	1.0				70 - 130	30
1,1-Dichloropropene	ND	1.0	91	92	1.1				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	84	83	1.2				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	95	99	4.1				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	94	93	1.1				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	97	98	1.0				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	86	101	16.0				70 - 130	30
1,2-Dibromoethane	ND	1.0	87	90	3.4				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	96	96	0.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	106	95	10.9				70 - 130	30
1,2-Dichloropropane	ND	1.0	93	92	1.1				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	98	98	0.0				70 - 130	30

QA/QC Data

SDG I.D.: GCD55026

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,3-Dichlorobenzene	ND	1.0	99	98	1.0				70 - 130	30
1,3-Dichloropropane	ND	1.0	88	88	0.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	97	97	0.0				70 - 130	30
2,2-Dichloropropane	ND	1.0	101	100	1.0				70 - 130	30
2-Chlorotoluene	ND	1.0	100	97	3.0				70 - 130	30
2-Hexanone	ND	5.0	85	83	2.4				70 - 130	30
2-Isopropyltoluene	ND	1.0	101	102	1.0				70 - 130	30
4-Chlorotoluene	ND	1.0	101	99	2.0				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	85	83	2.4				70 - 130	30
Acetone	ND	5.0	78	85	8.6				70 - 130	30
Acrylonitrile	ND	5.0	78	79	1.3				70 - 130	30
Benzene	ND	0.70	91	92	1.1				70 - 130	30
Bromobenzene	ND	1.0	98	99	1.0				70 - 130	30
Bromochloromethane	ND	1.0	88	94	6.6				70 - 130	30
Bromodichloromethane	ND	0.50	94	96	2.1				70 - 130	30
Bromoform	ND	1.0	88	87	1.1				70 - 130	30
Bromomethane	ND	1.0	132	130	1.5				70 - 130	30
Carbon Disulfide	ND	1.0	100	99	1.0				70 - 130	30
Carbon tetrachloride	ND	1.0	97	95	2.1				70 - 130	30
Chlorobenzene	ND	1.0	95	95	0.0				70 - 130	30
Chloroethane	ND	1.0	98	95	3.1				70 - 130	30
Chloroform	ND	1.0	96	93	3.2				70 - 130	30
Chloromethane	ND	1.0	94	92	2.2				70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	95	95	0.0				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	94	95	1.1				70 - 130	30
Dibromochloromethane	ND	0.50	100	101	1.0				70 - 130	30
Dibromomethane	ND	1.0	89	89	0.0				70 - 130	30
Dichlorodifluoromethane	ND	1.0	99	98	1.0				70 - 130	30
Ethylbenzene	ND	1.0	96	95	1.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	109	109	0.0				70 - 130	30
Isopropylbenzene	ND	1.0	95	97	2.1				70 - 130	30
m&p-Xylene	ND	1.0	93	94	1.1				70 - 130	30
Methyl ethyl ketone	ND	5.0	89	89	0.0				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	82	85	3.6				70 - 130	30
Methylene chloride	ND	1.0	86	87	1.2				70 - 130	30
Naphthalene	ND	1.0	84	81	3.6				70 - 130	30
n-Butylbenzene	ND	1.0	98	98	0.0				70 - 130	30
n-Propylbenzene	ND	1.0	98	98	0.0				70 - 130	30
o-Xylene	ND	1.0	96	96	0.0				70 - 130	30
p-Isopropyltoluene	ND	1.0	97	97	0.0				70 - 130	30
sec-Butylbenzene	ND	1.0	99	100	1.0				70 - 130	30
Styrene	ND	1.0	93	92	1.1				70 - 130	30
tert-Butylbenzene	ND	1.0	95	96	1.0				70 - 130	30
Tetrachloroethene	ND	1.0	93	93	0.0				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	70	77	9.5				70 - 130	30
Toluene	ND	1.0	95	94	1.1				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	102	99	3.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	90	92	2.2				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	93	94	1.1				70 - 130	30
Trichloroethene	ND	1.0	91	92	1.1				70 - 130	30
Trichlorofluoromethane	ND	1.0	90	90	0.0				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	95	95	0.0				70 - 130	30
Vinyl chloride	ND	1.0	100	99	1.0				70 - 130	30

QA/QC Data

SDG I.D.: GCD55026

Parameter	Blank	Blk	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
% 1,2-dichlorobenzene-d4	94	%	100	100	0.0				70 - 130	30
% Bromofluorobenzene	95	%	97	98	1.0				70 - 130	30
% Dibromofluoromethane	99	%	98	97	1.0				70 - 130	30
% Toluene-d8	91	%	100	101	1.0				70 - 130	30

## Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

I = This parameter is outside laboratory LCS/LCSD specified recovery limits.

m = This parameter is outside laboratory MS/MSD specified recovery limits.

r = This parameter is outside laboratory RPD specified recovery limits.

s = This parameter is outside laboratory Blank Surrogate specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis Shiller, Laboratory Director  
July 19, 2019

Friday, July 19, 2019

Criteria: CT: GAM, GWP, SWP

State: CT

## Sample Criteria Exceedances Report GCD55026 - TRC-DOT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CD55028	\$8260GWR	1,2-Dibromo-3-chloropropane	CT / RSR GWPC (ug/l) / APS Organics	ND	0.50	0.2	0.2	ug/L
CD55028	\$8260GWR	1,2-Dibromoethane	CT / RSR GWPC (ug/l) / Volatiles	ND	0.50	0.05	0.05	ug/L
CD55029	\$8260GWR	1,2-Dibromo-3-chloropropane	CT / RSR GWPC (ug/l) / APS Organics	ND	0.50	0.2	0.2	ug/L
CD55029	\$8260GWR	1,2-Dibromoethane	CT / RSR GWPC (ug/l) / Volatiles	ND	0.50	0.05	0.05	ug/L
CD55030	\$8260GWR	1,2-Dibromo-3-chloropropane	CT / RSR GWPC (ug/l) / APS Organics	ND	0.50	0.2	0.2	ug/L
CD55030	\$8260GWR	1,2-Dibromoethane	CT / RSR GWPC (ug/l) / Volatiles	ND	0.50	0.05	0.05	ug/L
CD55033	\$8260GWR	1,2-Dibromo-3-chloropropane	CT / RSR GWPC (ug/l) / APS Organics	ND	0.50	0.2	0.2	ug/L
CD55033	\$8260GWR	1,2-Dibromoethane	CT / RSR GWPC (ug/l) / Volatiles	ND	0.50	0.05	0.05	ug/L

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



# REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

**Laboratory Name:** Phoenix Environmental Labs, Inc.

**Client:** TRC Environmental Corp.

**Project Location:** CONN DOT PUTNAM MAINTENANC

**Project Number:**

**Laboratory Sample ID(s):** CD55026-CD55042

**Sampling Date(s):** 7/11/2019

**List RCP Methods Used (e.g., 8260, 8270, et cetera)** 6010, 7470/7471, 8260, 8270, ETPH

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1A	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1B	<u>VPH and EPH methods only:</u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
2	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
4	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? See Sections: SVOA Narration, SVOASIM Narration, VOA Narration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5	a) Were reporting limits specified or referenced on the chain-of-custody?  b) Were these reporting limits met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Rashmi Makol Position: Project Manager

Printed Name: Rashmi Makol Date: Friday, July 19, 2019

Name of Laboratory Phoenix Environmental Labs, Inc.

**This certification form is to be used for RCP methods only.**



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

July 19, 2019

SDG I.D.: GCD55026

### SDG Comments

#### Metals Analysis:

The client requested a shorter list of elements than the 6010 RCP list. Only the RCRA 8 Metals are reported as requested on the chain of custody.

#### Volatile 8260 analysis:

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane do not meet the GWP these compounds are analyzed by GC/ECD to achieve this criteria.

### ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

**AU-FID11 07/10/19-1** Jeff Bucko, Chemist 07/10/19

CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55041

The initial calibration (ETPH513I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (710A003\_1) and contained the following outliers: None.

The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

**AU-FID21 07/12/19-1** Jeff Bucko, Chemist 07/12/19

CD55038

The initial calibration (ETPH709I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (712A003\_1) and contained the following outliers: None.

The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

**AU-FID21 07/15/19-1** Jeff Bucko, Chemist 07/15/19

CD55033

The initial calibration (ETPH709I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (715A006\_1) and contained the following outliers: None.

The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

**AU-XL1 07/12/19-1** Keith Aloisa, Chemist 07/12/19

CD55039, CD55040

The initial calibration (ETPH426I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (712A003\_1) and contained the following outliers: None.

The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

**AU-XL1 07/15/19-1** Jeff Bucko, Chemist 07/15/19

CD55028, CD55029

The initial calibration (ETPH426I) RSD for the compound list was less than 30% except for the following compounds: None.

As per section 7.2.3, a discrimination check standard was run (715A003) and contained the following outliers: None.

The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

### QC (Batch Specific):

**Batch 487299 (CD54465)**

CD55028, CD55029, CD55033

All LCS recoveries were within 60 - 120 with the following exceptions: None.

All LCSD recoveries were within 60 - 120 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# RCP Certification Report

July 19, 2019

SDG I.D.: GCD55026

### **ETPH Narration**

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

#### **Batch 487436 (CD55627)**

CD55038

All LCS recoveries were within 60 - 120 with the following exceptions: None.

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

### **QC (Site Specific):**

#### **Batch 487285 (CD55036)**

CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55039, CD55040, CD55041

All LCS recoveries were within 60 - 120 with the following exceptions: None.

All MS recoveries were within 50 - 150 with the following exceptions: None.

All MSD recoveries were within 50 - 150 with the following exceptions: None.

All MS/MSD RPDs were less than 30% with the following exceptions: None.

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

### **Mercury Narration**

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

#### **Instrument:**

##### **MERLIN 07/12/19 08:07**

Rick Schweitzer, Chemist 07/12/19

CD55026, CD55027, CD55028, CD55029, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

##### **MERLIN 07/15/19 08:19**

Rick Schweitzer, Chemist 07/15/19

CD55033

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

### **QC (Batch Specific):**



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## Certification Report

July 19, 2019

SDG I.D.: GCD55026

### ***Mercury Narration***

#### **Batch 487214 (CD54430)**

CD55028, CD55029

All LCS recoveries were within 80 - 120 with the following exceptions: None.

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

#### **Batch 487340 (CD54480)**

CD55026, CD55027, CD55032

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

#### **Batch 487341 (CD54286)**

CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

#### **Batch 487347 (CD54659)**

CD55033

All LCS recoveries were within 80 - 120 with the following exceptions: None.

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

### ***ICP Metals Narration***

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

#### **Instrument:**

**ARCOS 07/12/19 10:21**      Emily Kolominskaya, Tina Hall, Chemist 07/12/19

CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041

Additional criteria for CCV and ICSAB:

Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB). The linear range is defined daily by the calibration range.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

**BLUE 07/12/19 08:26**      Tina Hall, Chemist 07/12/19

CD55028, CD55029, CD55033

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## Certification Report

July 19, 2019

SDG I.D.: GCD55026

---

### ***ICP Metals Narration***

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria. The linear range is defined daily by the calibration range.

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

### **QC (Batch Specific):**

#### **Batch 487282 (CD55344)**

CD55028, CD55029, CD55033

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

### **QC (Site Specific):**

#### **Batch 487295 (CD55026)**

CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

All MS recoveries were within 75 - 125 with the following exceptions: None.

---

### **SVOA Narration**



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

July 19, 2019

SDG I.D.: GCD55026

### SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

**QC Batch 487677 (Samples: CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041): -----**

**One or more analytes is below the method criteria. A low bias for these analytes is possible. (Hexachlorocyclopentadiene, Pyridine, 3,3"-Dichlorobenzidine, Benzidine)**

**The LCS and/or the LCSD recovery is below the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (Benzoic Acid)**

**The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (2,4-Dinitrophenol, Aniline, Benzoic Acid, Bis(2-chloroethyl)ether)**

**QC Batch 487713 (Samples: CD55028, CD55029, CD55033): -----**

**The LCS and/or the LCSD recovery is below the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (Aniline, Benzidine)**

**The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 2-Chlorophenol, 2-Methylphenol (o-cresol), 3&4-Methylphenol (m&p-cresol), 4-Chloroaniline, Acetophenone, Benzoic acid, Bis(2-chloroethyl)ether, Bis(2-chloroisopropyl)ether, Hexachloroethane, N-Nitrosodimethylamine, N-Nitrosodi-n-propylamine, Phenol)**

**The LCS/LCSD RPD exceeds the method criteria for one or more surrogates, therefore there may be variability in the reported result. (% 2-Fluorophenol, % Nitrobenzene-d5, % Phenol-d5)**

### Instrument:

**CHEM05 07/15/19-2** Wes Bryon, Chemist 07/15/19

CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM05/5\_SPLIT\_0715):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: 2-Nitrophenol 0.029 (0.1), Hexachlorobenzene 0.089 (0.1)

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM05/0715\_31-5\_SPLIT\_0715):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-Nitrophenol 0.029 (0.1), Hexachlorobenzene 0.088 (0.1)



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# RCP Certification Report

July 19, 2019

SDG I.D.: GCD55026

### SVOA Narration

The following compounds did not meet minimum response factors: None.

**CHEM06 07/16/19-1** Matt Richard, Chemist 07/16/19

CD55040, CD55041

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM06/6\_SPLIT\_0715):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: 2-Nitrophenol 0.060 (0.1), Hexachlorobenzene 0.096 (0.1)

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM06/0716\_03-6\_SPLIT\_0715):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-Nitrophenol 0.064 (0.1), Hexachlorobenzene 0.094 (0.1)

The following compounds did not meet minimum response factors: None.

**CHEM07 07/17/19-2** Wes Bryon, Chemist 07/17/19

CD55028, CD55029, CD55033

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM07/7\_SPLIT\_0710):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: 2-Nitrophenol 0.054 (0.1)

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM07/0717\_31-7\_SPLIT\_0710):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-Nitrophenol 0.068 (0.1)

The following compounds did not meet minimum response factors: None.

### QC (Batch Specific):

**Batch 487283 (CD54359)**

CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55041

All LCS recoveries were within 30 - 130 with the following exceptions: None.



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# RCP Certification Report

July 19, 2019

SDG I.D.: GCD55026

---

### SVOA Narration

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

#### Batch 487713 (CD55028)

CD55028, CD55029, CD55033

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: Aniline(<10%), Benzidine(<10%)

All LCS/LCSD RPDs were less than 20% with the following exceptions: % 2-Fluorophenol(27.3%), % Nitrobenzene-d5(29.5%), % Phenol-d5(24.0%), 1,2-Dichlorobenzene(30.2%), 1,3-Dichlorobenzene(28.6%), 1,4-Dichlorobenzene(28.0%), 2-Chlorophenol(25.6%), 2-Methylphenol (o-cresol)(23.0%), 3&4-Methylphenol (m&p-cresol)(24.2%), 4-Chloroaniline(27.2%), Acetophenone(26.2%), Benzoic acid(39.3%), Bis(2-chloroethyl)ether(26.4%), Bis(2-chloroisopropyl)ether(28.0%), Hexachloroethane(30.6%), N-Nitrosodimethylamine(29.7%), N-Nitrosodi-n-propylamine(21.9%), Phenol(25.5%)

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

### QC (Site Specific):

#### Batch 487677 (CD55036)

CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041

All LCS recoveries were within 30 - 130 with the following exceptions: 3,3'-Dichlorobenzidine(15%), Benzidine(<10%), Benzoic Acid(22%), Hexachlorocyclopentadiene(29%), Pyridine(<10%)

All LCSD recoveries were within 30 - 130 with the following exceptions: 3,3'-Dichlorobenzidine(20%), Benzidine(<10%), Hexachlorocyclopentadiene(26%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: 2,4-Dinitrophenol(34.1%), Aniline(68.0%), Benzoic Acid(103.3%), Bis(2-chloroethyl)ether(56.8%)

All MS recoveries were within 30 - 130 with the following exceptions: Pyridine(29%)

All MSD recoveries were within 30 - 130 with the following exceptions: Hexachlorocyclopentadiene(28%), Pyridine(22%)

All MS/MSD RPDs were less than 30% with the following exceptions: None.

A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

---

### SVOASIM Narration



## Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# RCP Certification Report

July 19, 2019

SDG I.D.: GCD55026

### SVOASIM Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

**QC Batch 487713 (Samples: CD55028, CD55029, CD55033): -----**

**The LCS and/or the LCSD recovery is below the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (Pyridine)**

**The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (Pyridine)**

**The LCS/LCSD RPD exceeds the method criteria for one or more surrogates, therefore there may be variability in the reported result. (% 2-Fluorophenol)**

### Instrument:

**CHEM27 07/17/19-1** Wes Bryon, Chemist 07/17/19

CD55028, CD55029, CD55033

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27\_SIM18\_0716):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/0717\_06-27\_SIM18\_0716):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

### QC (Batch Specific):

**Batch 487713 (CD55028)**

CD55028, CD55029, CD55033

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: Pyridine(20%)

All LCS/LCSD RPDs were less than 20% with the following exceptions: % 2-Fluorophenol(25.9%), Pyridine(57.1%)

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

### QC (Site Specific):

**Batch 487677 (CD55036)**

CD55026, CD55027, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041

All LCS recoveries were within 30 - 130 with the following exceptions: 3,3'-Dichlorobenzidine(15%), Benzidine(<10%), Benzoic Acid(22%), Hexachlorocyclopentadiene(29%), Pyridine(<10%)



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

July 19, 2019

SDG I.D.: GCD55026

### SVOASIM Narration

All LCSD recoveries were within 30 - 130 with the following exceptions: 3,3'-Dichlorobenzidine(20%), Benzidine(<10%), Hexachlorocyclopentadiene(26%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: 2,4-Dinitrophenol(34.1%), Aniline(68.0%), Benzoic Acid(103.3%), Bis(2-chloroethyl)ether(56.8%)

All MS recoveries were within 30 - 130 with the following exceptions: Pyridine(29%)

All MSD recoveries were within 30 - 130 with the following exceptions: Hexachlorocyclopentadiene(28%), Pyridine(22%)

All MS/MSD RPDs were less than 30% with the following exceptions: None.

A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

### VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 487665 (Samples: CD55033): -----

The LCS and/or the LCSD recovery is above the upper range for one or more analytes that were not reported in the sample(s), therefore no significant bias is suspected. (Bromomethane)

### Instrument:

CHEM14 07/11/19-2

Jane Li, Chemist 07/11/19

CD55026, CD55027, CD55031, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041, CD55042

Initial Calibration Evaluation (CHEM14/TEST071019):

96% of target compounds met criteria.

The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 21% (20%), Methyl Ethyl Ketone 24% (20%)

The following compounds did not meet recommended response factors: Acetone 0.092 (0.1), Tetrachloroethene 0.170 (0.2)

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM14/0711\_33-TEST071019):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

CHEM17 07/12/19-1

Michael Hahn, Chemist 07/12/19

CD55028, CD55029, CD55030

Initial Calibration Evaluation (CHEM17/VT-S071119):

94% of target compounds met criteria.

The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 22% (20%), Bromomethane 23% (20%),

Dibromochloromethane 23% (20%), Tetrahydrofuran (THF) 25% (20%), trans-1,4-dichloro-2-butene 29% (20%)

The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.037 (0.05), 2-Hexanone 0.085 (0.1), Acetone 0.055 (0.1), Bromoform 0.072 (0.1), Methyl ethyl ketone 0.074 (0.1)

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0712\_02-VT-S071119):



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

July 19, 2019

SDG I.D.: GCD55026

### VOA Narration

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Tetrahydrofuran (THF) 0.042 (0.05)

The following compounds did not meet minimum response factors: None.

#### CHEM17 07/13/19-1

Michael Hahn, Chemist 07/13/19

CD55033

Initial Calibration Evaluation (CHEM17/VT-S071119):

94% of target compounds met criteria.

The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 22% (20%), Bromomethane 23% (20%), Dibromochloromethane 23% (20%), Tetrahydrofuran (THF) 25% (20%), trans-1,4-dichloro-2-butene 29% (20%)

The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.037 (0.05), 2-Hexanone 0.085 (0.1), Acetone 0.055 (0.1), Bromoform 0.072 (0.1), Methyl ethyl ketone 0.074 (0.1)

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0713\_02-VT-S071119):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.033 (0.05), Acetone 0.043 (0.05), Tetrahydrofuran (THF) 0.037 (0.05)

The following compounds did not meet minimum response factors: None.

### QC (Batch Specific):

#### Batch 487417 (CD54316)

CD55026, CD55027, CD55031, CD55032, CD55034, CD55035, CD55036, CD55037, CD55038, CD55039, CD55040, CD55041, CD55042

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

#### Batch 487650 (CD55030)

CD55028, CD55029, CD55030

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

#### Batch 487665 (CD55557)

CD55033

All LCS recoveries were within 70 - 130 with the following exceptions: Bromomethane(132%)



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

July 19, 2019

SDG I.D.: GCD55026

---

### **VOA Narration**

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

---

### **Temperature Narration**

The samples were received at 3.2C with cooling initiated.

(Note acceptance criteria for relevant matrices is above freezing up to 6°C)



